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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Contributions to Operative Surgery.* By GEORGE H. PORTER, M.B., T.C.D.; F.R.C.S.I.; Senior Surgeon to the Meath Hospital and County of Dublin Infirmary; Examiner in Surgery, Royal College of Surgeons, Ireland; Consulting Surgeon to the Coombe Lying-in Hospital; Member of Council of the Surgical Society of Ireland; Member of the Pathological Society of Dublin; Lecturer on Clinical Surgery.

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I.—*Excision of Four and a-Half Inches of the Ulna for Disease; Recovery, with a very Useful Limb.*

I CONSIDER it to be the duty of every hospital surgeon to place on record, from time to time, such cases as may possibly be useful or interesting to others, and have selected the following from my note-book as one which, in a marked manner, illustrates what is justly

termed "conservative surgery." The practical surgeon in the present day needs not be told of the numerous and important advantages connected with resection of diseased bones. It enables him to save much of damaged osseous structure for the support of attached soft parts; it tends to the avoiding of extensive mutilation, and preserves a limb which, although perhaps disfigured, and far inferior to a sound one, is more sightly and more useful than one which is artificial.

P. D., aged twenty-four years, a discharged sailor from H. M. ship *Renown*, was admitted into the Meath Hospital, under my care, May 31st, 1862, suffering from disease of the left ulna. The following is the history of his case as narrated by himself:—In May, 1860, whilst employed in the rigging of the ship, he fell to the deck, from an elevation of about twenty feet, on his left side, his arm being under him at the time. He did not then feel any bad effects from the fall, with the exception of some pain in the fore-arm, which, however, passed off in a few days. Thus he continued, without experiencing any inconvenience, until September, 1861, when the fore-arm commenced swelling, and became very painful, but was not discoloured. He thought the pain was caused by rheumatism, and applied to the medical officer of the vessel, who painted the arm with iodine, which gave him much relief. The swelling diminished somewhat under this treatment, and the pain subsided in a great measure, but was never altogether absent. This altered condition, however, was not of long duration, as in the following month his fore-arm became excessively painful, especially at night, and the tumefaction returned in an aggravated form, while, posteriorly, the limb was of a bright red colour, with a shining tense appearance. At this period he was obliged to leave his ship and enter the hospital at Plymouth. A few days subsequent to being placed under treatment, the swollen fore-arm burst in two places on the posterior aspect, and discharged freely through those apertures, giving him much relief. On examination the exact nature of his malady was discovered, and it was decided to cut down on and remove the diseased bone. Whilst waiting in an ante-chamber to be operated upon, some accident occurred to another patient who was then being chloroformed, and he became so alarmed that he declined to permit any operation on himself, and left the hospital. He then came over to Dublin, and gained admission into the Meath Hospital on the date above mentioned.

His fore-arm, at its centre, measured one inch and a quarter more than the right. The whole posterior part was of a bright red hue, and two sinuous openings were visible in this situation, surmounted by large angry-looking papillæ—one about three inches below the point of the elbow, in the mesial line, and the other two inches above the wrist-joint. On introducing a probe through the former it passed in a downward direction, and struck distinctly on diseased bone devoid of periosteal covering. In like manner, through the lower one, the instrument detected the same state of bone in the inferior portion of the ulna. The wrist and elbow joints were in a healthy condition, with all their motions unimpaired; but pronation and supination were limited, and all attempts at these gave him pain. His hand was slightly œdematous on the back, but he had good use of his fingers. The long axis of the ulna was not altered to any appreciable degree, and the injury seemed limited to the middle of the bone, and not to be of very great extent. In consultation with my colleagues I decided upon resection, particularly as the patient was a merry, well-tempered man, in apparent general good health, and as he desired most urgently that something should be at once done for him.

Operation.—On the 6th of June, having had him completely chloroformed, I proceeded in the following manner to search for and remove the dead bone:—The man was placed in the recumbent position, with the limb brought fairly over the edge of the table, an assistant firmly holding it, the fore-arm being bent to a right angle on the arm, carried forward a little, and the hand kept steadily in the prone position. With a strong scalpel I made an incision along the posterior angle of the ulna, six and a-half inches in length, carrying the knife well down to the bone throughout its entire extent, having commenced about two inches below the olecranon process, and terminated about one inch above the wrist joint, and included the inferior sinus in the course of the incision. I now found, on sponging out the wound, that the bone was surrounded by a thickened and infiltrated cellular substance. By means of the united action of knife and fingers, here and there dissecting the soft parts from the ulna, and keeping the knife's edge close to the bone when I could not make a separation without cutting, I exposed the diseased part, and obtained a complete view of the injury, which appeared to extend through about three and a-half inches of the middle of the ulna. Having cleared the bone as much as

possible of soft parts, I carried a large curved needle round it, *above* the disease. To this I tied the extremity of a chain saw, and brought it into the proper position for action. Having then removed the needle, I hooked on the second handle of the instrument, and rapidly cut through the bone in the sound part. Similarly the saw was directed round at a level *below* the diseased portion, and a section completed through healthy bony structure. The loosened portion of shaft was now grasped in a strong forceps, and by a few careful strokes of the knife to some muscular fibres adhering internally, the piece of damaged bone was completely exsected—only two small arteries requiring to be ligatured. The edges of the wound were then brought together by three points of silver wire suture, water dressing was applied, and the limb was laid on a thinly padded rectangular splint, which was loosely bandaged to the arm above the elbow, and to the hand. The patient was then placed in bed, and a full opiate administered.

June 7th.—The man had passed a rather restless night, and was in pain, having a feeling of tension in the fore-arm. The dressings were removed, when the lips of the incision were found to be much swollen, somewhat everted, and a faint erysipelatous blush was visible on both sides. The sutures were then taken out, and a light crumb-of-bread poultice, wet with warm water and camphorated spirit, was applied. I ordered some aperient medicine, to be followed by bark in effervescence.

June 8th.—The patient felt much better, and redness had completely faded. The poultice was discontinued, and the edges of the wound approximated by means of strips of wet linen.

It would be tedious and unprofitable to trace the daily progress of the case. It is sufficient to say that the wound healed most kindly; and in six weeks from the date of the operation its site was represented by a well-united linear cicatrix. The man was discharged from the hospital 28th July, 1862.

For more than twelve months since that date he has been employed in a situation requiring activity and strength for the performance of its duties, and was recently rewarded for a feat of daring, in which he used this very arm more especially. The limb is, of course, somewhat smaller in circumference than the right one, and exhibits a firm cicatrix, slightly depressed along the course of the incision, at either end of which the remaining portions of the bone can be felt, rounded off. There is a firmness about the cicatrix, at the site of the exsected part of the ulna, as if a ligamentous

union had formed between the sound pieces unremoved; and pronation and supination can be accomplished to a great extent.

Large portions of the ulna, I may add, have been excised by different surgeons. Among the recorded cases I may particularize those which occurred in the practice of Mr. M'Ewen, of Chester, who cut the bone across near the olecranon process, and then disarticulated it at the wrist joint. Mr. Johnson, of Richmond, U.S., removed the middle two-thirds; and Mr. Fergusson excised the entire of the ulna, with the exception of an inch above the styloid process.

With respect to my own operation, I may remark, it was by no means difficult in performance. I found the chain saw very effective and easy of management, as the large curved needle, being kept close to the bone, conducted it round with the greatest facility, enabling me to make a clean and even section. I mention this because in Mr. M'Ewen's case he stated, when speaking of the instrument:—"I have never used the chain saw, nor seen it used, though much has been written about its applicability in such cases; but I should much question the propriety of its use in any case." He attempted to cut the bone across with Liston's bone forceps, and failed, the forceps having broken, and he was obliged to use a "Hey's" saw. The use of Hey's saw, in my opinion, must be attended with difficulty, owing to the flaps of the wound coming in its way—an objection which certainly does not hold good to nearly such an extent when the chain instrument is employed. I can imagine the forceps very efficient in cutting through the lower end of the ulna where the bone is so small, as in Mr. Fergusson's case; but I do not believe it could easily cut through the upper extremity with the same rapidity and evenness as the chain saw. In Mr. Johnson's operation he made the upper section with a chain saw, and the lower with a metacarpal saw. From my experience of the action of the chain saw in the case I have mentioned, I can recommend its use, not only on account of the facility of passing it round the bone, but also on account of the ease with which it is worked without interfering with the flaps of the wound. The lithograph, Plate I., from a drawing taken in the early part of December last, gives a very true representation of the fore-arm in its present condition. This case I think may be considered satisfactory in its result, and to be added to the list of examples of "conservative surgery"—a limb saved by an easy operation, and which I doubt not would have been removed by the amputating knife some few years ago.

II.—*On the Importance of Excising a Small Portion of the Windpipe in the Operation of Tracheotomy.*

I have often been struck with the fact, that surgical writers, with few exceptions, in describing tracheotomy, lay so little stress upon the removal of a portion of the windpipe in some of those cases requiring operation. According to the directions given by those authors, nothing more is supposed than that the windpipe should be opened; and the reader is left to infer that a slit or incision in the tube ought to be sufficient, and is, in fact, merely what is generally done. For example, Mr. Fergusson writes thus:—"The point of the knife should now be passed into the tube, at the lowest part of the exposed portion of the trachea, and carried from below upwards to any desired extent." Mr. Erichsen advises in these terms:—"It must then be opened, by pushing the point of the knife, with its back turned towards the sternum, between two of the rings, and cutting upwards through about three of them." The late Mr. Liston gave this description:—"The point of the knife is entered into the rings, with its back towards the sternum, and, by a slight sawing motion, three or four of them are divided upwards, and in the middle line." Mr. Pirrie says:—"The point of the scalpel, having its back directed to the sternum, is introduced into the lowest portion of the trachea, thus exposing it to view, and is carried upwards so as to divide, in its course, three or four of the rings in the central line." Malgaigne writes thus:—"En incisant longitudinalement et de bas en haut trois, quatre ou cinq anneaux de la trachée-artère." And, lastly, M. Guerin describes the act thus:—"Il pénètre dans le trachée et divise quatre anneaux de cet organe."

Now, I deem those very high authorities, indeed; and merely quote them as showing the manner in which the opening is advised by so many surgeons of acknowledged eminence, without their making any distinction between cases in which the operation is demanded for widely different purposes. If the removal of a foreign body be the object, cutting a slit may suffice to allow the ingress of sufficient air to enable the sufferer to cough it up, or even to permit the introduction of a probe or forceps for its extraction. But, on the other hand, when the surgeon is called upon to relieve acute laryngitis, and when the free admission of air must be allowed for a longer or shorter time, I consider a mere incision in the trachea quite insufficient for the full accomplishment of unrestrained respiration. Again, in cases of chronic disease, where an artificial

opening below the seat of mischief may be requisite for the remainder of a patient's life, I maintain that a linear incision does not answer the requirements to the same extent as the removal of a portion of the windpipe. To the practical surgeon a mere slit of the trachea must appear objectionable in those instances where more than a temporary admission of air is necessary. When, for example, a large secretion of mucus takes place, or in cases of croup, when quantities of lymph or false membrane are present, such an opening is obviously insufficient. Suppose, moreover, the introduction of a tube into the wound to be essential in cases of hemorrhage, very great difficulty is sometimes experienced in directing it through this kind of opening, an inconvenience which Mr. Fergusson has noticed. He says:—"I have seen some trouble in passing the tube, both in laryngotomy and tracheotomy, owing to the elasticity of the cricoid cartilage, or rings of the trachea." Mr. Erichsen also observes, in his valuable work on surgery:—"After the trachea has been opened, the next point is to introduce, in cases requiring it, a proper tube. In doing this some little difficulty may be occasionally experienced, owing to the elasticity of the sides of the incision in the windpipe, in consequence of which one of them is apt to get doubled under the end of the instrument." I have myself seen this difficulty greatly increased in a case where, from the motion of the trachea beneath the deep fascia in front of it, the windpipe was not opened in a line exactly corresponding with that in the fascia. In cases, also, where a tube cannot be endured from the amount of irritation it occasions, such an aperture, to admit a supply of air to a suffocating patient, as that made by a simple incision is not, in my judgment, at all sufficient. Many surgeons have, in practice, discovered its insufficiency; and hence authors of distinction are found advocating the removal of a piece of the front of the trachea in order to permit a free and uninterrupted current of air to the lungs. Among those I may mention Mr. Lawrence, in his paper published in the *Medico-Chirurgical Transactions*,[a] when alluding to the employment of the canula:—"In some instances," he says, "this has been borne quietly in the trachea, while in others it has produced so much irritation, cough, and sense of choking, as to render its immediate removal necessary. Under the latter circumstances I should advise a longitudinal incision, of about half an inch, in the middle of the trachea, and the removal of a thin

[a] Vol. vi.

slip of the tube, which will leave an artificial opening for respiration equal in size to the natural one." The late Mr. Carmichael strongly advised the excision of a diamond-shaped portion of the trachea[a] (Plate II., Fig. 1), as forming a free exit to viscid phlegm, generally present in those cases, and at the same time objects to the canula, on the ground that "it excites intolerable irritation, with violent fits of coughing." Pelletan, and many others, condemned the canula as being insupportable to the patient, and adding to the irritation. I cannot, however, go the entire length with those who would assert that this appliance usually produces a large amount of distress. I have frequently employed it myself successfully, and seen it introduced by others with the most happy results; but, on the other hand, I have certainly witnessed instances where its presence could not be endured for a moment. I have notes of two cases in which I performed tracheotomy—one, that of a girl, aged sixteen years, labouring under acute laryngitis; the second, where a man of forty-three suffered from syphilitic ulceration of the larynx. In neither of these cases could the tube be borne, even for an instant—a fact which, at the time, impressed me very strongly with the necessity of cutting out a small piece of the windpipe instead of making a mere linear incision. I shall not, however, dwell upon this point, as my object is not to discuss the propriety of using or not using a canula. I am perfectly aware that it cannot be dispensed with in many cases, and therefore it should always be at hand when we are obliged to open the trachea.

With regard, however, to the main object of this paper, let me not for a moment be considered as condemning the practice of others, but merely as endeavouring to impress on the operating surgeon that which I deem a most important feature in tracheotomy, and which I myself have found to possess surpassing advantages. In a word, I believe it to be of great importance that a portion of the tube should be excised, though I am quite aware this course has not been generally sanctioned. I do not presume to put this forward as any original conception of my own, for, among those in favour of such a plan of opening the windpipe in certain cases, I may mention my late father, as stated in his work on the larynx and trachea, published in 1826; Professor Hargrave, who also recommends such a procedure (*Operative Surgery*, 1831); Ryland, who advises it under special circumstances; Mr. Fergusson, who

[a] Transactions of the College of Physicians, Ireland. Vol. iv.

Fig 1.

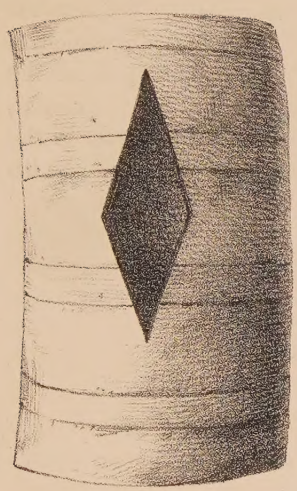

Fig 2.

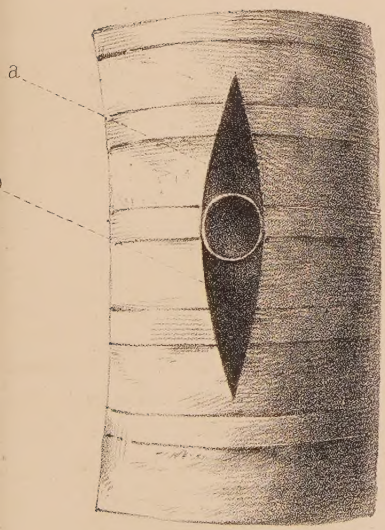

Fig. 4.

Fig. 3.

Mr PORTER ON OPERATIVE SURGERY.

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says:—"If the opening has been made to allow the patient to breathe more freely, it will be necessary to make some provision to keep it patent. Some portions of its margins may be cut away with this object." Mr. Lawrence and the late Mr. Carmichael (as before quoted) practised this same method. The advantages arising from the excision of a portion of the trachea may be briefly detailed. In the first place, I consider that it allows an easier introduction of the canula than when it is inserted through the mere incision. Secondly—it favours a more free escape of mucus, flakes of lymph, or blood, from the interior of the windpipe, which is a most important result to be aimed at. Thirdly—when the canula is introduced through an opening of its own size, and which it fits accurately, there is not the same likelihood of blood passing into the trachea as there would be in the case of a slit. The slit, when its edges are separated by the canula, must leave a triangular opening above and below the instrument, as is represented in the diagram (Plate II., Fig. 2), and the little spaces, marked *a* and *b*, would permit the flow of some blood internally. Fourthly—in cases where the presence of the canula cannot be tolerated, from the irritation it gives rise to, it can be well understood that such an opening is absolutely essential to permit free respiration. Fifthly—should tracheotomy be performed for the removal of a foreign body, it will be quite apparent that the aperture made by cutting out a portion of the windpipe would give a much greater facility for the introduction of instruments to accomplish its dislodgement. Sixthly—if a canula be placed in the trachea it would be much more likely to remain in its proper position when fixed in an opening which approximated to its own size and shape than if inserted through such a slit as that objected to. Seventhly, and lastly—in cases of suspended animation the free opening made by the removal of a piece of the windpipe would allow the application of the nozzle of a bellows, or the passage of a suitable tube, much more easily than a simple incision.

But in carrying out the proposed method it is possible to run into an opposite extreme, and thereby commit a grievous error; for we may cut out too much of the tube, and thereby expose the patient to serious suffering. And hence, as previously admitted, objections have been raised to it. Ryland, in his admirable work on the *Diseases of the Larynx*, thus alludes to it in disparaging terms:—"The removal," he says, "of a portion of the front of the trachea is by no means unattended with inconvenience. For, in

the first place, when the operation is performed at the lower part of the neck, the distance between the surface of the integuments and the trachea is so great, that it becomes a matter of considerable difficulty to cut away an elliptical portion of the tube.

"The difficulty amounts almost to an impossibility when the integuments are much tumefied either by emphysema or by serous or purulent infiltration. This step of the operation is, however, greatly facilitated by drawing forward the trachea by means of a hook inserted underneath one of its cartilaginous rings. In the second place, the removal of a portion of the front of the windpipe, especially in children, may probably occasion a narrowing of the tube at this part to such an extent as subsequently to interfere with the functions of the organ. The area of the tube is, in the natural condition of the parts, preserved by the cartilaginous rings, which counteract the disposition of the muscular bands at the back to diminish its calibre. But when the centre of two or three of the rings is removed to any extent, the action of the muscular fibres remains uncontrolled, and the trachea becomes, in consequence, very much narrowed."

The late Mr. Liston, on the same grounds, was unfavourable to the removal of any of the windpipe, and expressed his opinion as follows:—"It has been proposed to remove an oval portion of the tube. This is a difficult matter, does not answer the purpose long, and is apt to be followed, after the healing of the wound, by inconvenient and dangerous narrowing of the trachea."

Now, respecting the first objection urged by both authors, I find it hard to understand it, particularly as stated by the latter surgeon, who was universally acknowledged, in his day, to have been a most expert and daring operator. I should have thought that the man capable of passing a catheter with *one* hand could as easily cut out a piece of a trachea (properly bared) as make an incision in its centre line. I can fully understand the validity of the latter objection if too large a portion happened to be taken away, especially in the case of a child. In any operation, however, the surgeon may use his knife too freely, as well as in this; but why argue from the abuse against the proper amount of excision? I have never witnessed an instance of this dreaded narrowing of the windpipe when tracheotomy was performed in the manner which I do not hesitate to recommend. In the case of the young girl above-mentioned I cut out a larger portion than I intended, and she perfectly recovered, and is now in the enjoyment of the best health,

after a lapse of nine years, never having suffered for a moment during that period from any laryngeal affection. I may here, also, give the experience of Mr. Wells on this subject, as set forth in his excellent article on "Bronchotomy" in *The Cyclopædia of Practical Surgery*. He says:—"As to the danger of narrowing, I have not read of any cases supporting this view. On the other hand, I have, of many, where a portion was removed, and the aperture is said to have been filled with a ligamentous substance, and no narrowing occurred."

Some very ingenious instruments have been invented and suggested to the profession for making an opening in the trachea; and one for cutting out a piece from the front of this tube. Among the former I may mention that of M. Gerson, of Hamburgh; Thompson's Tracheatome; the Forceps of Garin; Edwards' Hook; and the Trochar and Cannula. This last-named instrument is a most useful one in cases where bleeding occurs, and which will not admit of delay in opening the air-tube. But there is one great disadvantage attending it; namely, if the cannula, on the withdrawal of the trochar, produces the violent irritation sometimes seen, its removal becomes imperative; and then, instead of leaving a circular or oval patulous wound, it is found triangular, with closing flaps, which afterwards prove troublesome. There is only one instrument that I am aware of for *cutting out* the portion of the trachea. Its invention is claimed both by Mr. Milliken, formerly of Dublin, now resident in London, and by Dr. Marshall Hall. It is very ingenious, and cuts out the piece by a rotatory motion when fixed in the trachea, by means of a screw. I have never seen it used; but I am of opinion that the motion of the windpipe, and the fact of the cutting edges being applied to a convex surface instead of a plane one, must render its operation more or less tedious. The best mode of proceeding, in my judgment, is, to remove a circular portion with the knife, adapting it as nearly as possible to the size of the cannula; and, although in some instances the operator may not be successful in attaining the precise size he desires; yet, in general he will be enabled to perform the operation sufficiently exact to secure all the objects desired. The form of knife that I have several times used and recommended for this purpose, I first saw employed by my father. It is a sharp-pointed "tenotome," with a narrow, but strong, blade.[a] Having fixed the trachea by catching it with a

[a] Plate II., Fig. 3.

hook, such as that represented in the lithograph, Plate II., Figure 4, the knife is carried round the portion of windpipe, firmly held forward, and a piece excised. Thus an opening is formed which freely admits the introduction of a cannula, if required; but, on the other hand, should its presence not be tolerated, an ample aperture is left for the uninterrupted admission of air.

III.—*Amputation through the Condyles of the Femur, for Gangrene of the Leg following on a Fracture of the Thigh Bone.*

Surgeons are not yet agreed respecting the advantages of different forms of flap amputations, as compared with the circular mode. The most happy results follow both methods of operating, though at times we are not left a choice, being forced to adopt one as better suited to some special case than the other. Circumstances occasionally forbid the severing of a limb at the situation we would wish, as most advantageous to the patient, and we are compelled to accept the site for amputation which a surgeon would not otherwise select.

The following case, I think, in a remarkable manner illustrates the advantages considered to attend upon the amputation of the thigh when executed through the condyles of the femur:—

J. W., aged 55 years, by occupation a farmer, was sent to me from the County Kildare, and admitted into the Meath Hospital, May 1st, 1862, suffering from gangrene of the right leg. The history of his case is as follows:—Six weeks previous to his admission, whilst sitting upon the side of a cart, and returning from a fair, a severe thunder-storm came on. His horse, being frightened, ran away, and threw him from his seat, when the wheel of the cart passed over his thigh, about the junction of its middle and inferior third, causing a fracture of the femur in this situation. Being a great distance from home when the accident occurred, he suffered exceedingly in consequence of the shaking of the limb during the journey to his house. He was not examined by a medical man until four hours after the accident. When visited he was found very weak, and suffering much pain at the seat of injury. The thigh was shortened two inches, and the foot was considerably everted. The fracture, however, was reduced, but it was impossible to keep it so, the surgeon not having proper splints at hand. He put it up as well as the limited appliances at his disposal permitted,

and left the patient tolerably comfortable. The man suffered intense pain in the foot all night, and the next morning two dark coloured vesications appeared, one on the dorsum of the second toe, and the other on the instep, the former about the size of the circumference of a threepenny piece, the latter of a shilling. The foot became at the same time cold, and lost sensation. The mortification continued to spread, until about four days before admission into hospital, when the line of separation became well defined. He was then sent to town, and admitted to the hospital on the date stated. The following was the condition of the limb on admission:—The injured thigh was two inches shorter than the other. A large mass of new bony material could be felt at the seat of the fracture, the lower fragment being pulled up to the outside of the upper, and forming an obtuse angle with it, the concavity looking inwards meanwhile, and giving the thigh a bowed or bent appearance. The fracture had firmly united in this deformed condition. The foot and leg were in a state of gangrene. On the latter the mortification had extended anteriorly to about an inch from the knee-joint, but not quite to the middle of the calf of the leg posteriorly. The line of demarcation was well defined, passing from the front of the leg obliquely downwards and backwards to the posterior aspect of the limb.

The tibia was exposed, and discovered to be deprived of periosteum to about half an inch of the knee-joint. The patient suffered much from the offensive fetor, but his health appeared good. The line of separation being so very well marked, it was decided, in consultation, to amputate as soon as he had recovered from the effects of the journey, and gained a little more strength.

The next point for consideration was respecting the mode of, and situation for, operation. To amputate below the knee was out of the question, as the disease had denuded the bone so near the joint. The fact of amputation of the thigh not being very successful, when performed high up, coupled with the consideration that a large portion of sound soft parts were in the calf of the leg, induced me to select a section through the condyles of the femur as the best and most suitable operation. The arguments of Mr. Syme in favour of cutting the bone at this part influenced me in the decision. Accordingly, on the 12th of May I proceeded to amputate in the following manner:—The man having been chloroformed thoroughly, had his leg extended over the end of the table, while the femoral artery was compressed by an assistant. I

then stood at the outside of the limb, and, adopting the rules of Mr. Fergusson for such amputations, laid the heel of the knife on the internal condyle, and rapidly drew it in a lunated course across the middle of the patella to the outer condyle, carrying it down to the bone. Having then retracted this little flap with my left hand, I applied the knife immediately above the patella, and cut through the quadriceps extensor. I then pushed the knife quickly through behind the femur from the outer extremity of the anterior flap, making its point appear at the inner one, and I cut a posterior flap, about seven inches in length, from the calf of the leg. An assistant retracted this long flap a little, and I carried the knife round the end of the thigh bone, cleared it for the saw (Butcher's), which I now laid a little above the condyles, and made a rapid section, rounding the extremity of the bone at the same time. There was but slight bleeding. The vessels were secured, and the flap was bent forward over the end of the femur, which was rounded to receive it, and a few points of silver wire suture introduced. A large piece of wet lint was then folded round, and the patient placed in bed, a pillow being put under the stump. An irrigator was suspended over it, and an anodyne draft administered to the man.

May 13th.—The patient stated that he had felt his stomach very sick all day after the operation, and that he still suffered from nausea and headache. I ordered him effervescing draughts containing small doses of tincture of opium.

May 14th.—His stomach was quite settled, the headache was much slighter, and he had slept a good deal during the night. His bowels were confined, and he was ordered an aperient draught.

I need not detain the reader by detailing the progress of this case from day to day. The stump healed quickly and well; the ligatures came away at the usual time; and there was but trifling suppuration. The man left the hospital on the 8th of August, with an admirable stump, having been previously provided with a well-fitting artificial leg. The interesting points, in this case are—firstly, the occurrence of gangrene of the leg and foot, which it is reasonable to infer was produced by some injury to the femoral vein by the broken fragments. In this supposition I am strengthened by the fact that, during the operation the vein was found filled with coagulated blood; and it is more than probable that the shaking received after the injury caused this lesion of the vessel. Secondly, the pathological condition of parts absolutely necessitated my mode of amputation, inasmuch as the apprehended

danger to the patient forbade my removing the limb above the fracture. The mortification extended so high that amputation below the knee could not be attempted; and my performing it through the part of the femur indicated afforded a broad surface of bone calculated to bear future pressure. Thirdly, the rarity of the operation is observable. It must be admitted that the cases in which it would be suitable are not numerous; for example, in diseased knee joint the extent of which precludes the possibility of resection, it would be likely to require amputation higher up. The same cause which renders this procedure uncommon also holds good in instances of compound fracture, if the end of the thigh bone be injured to any considerable extent upwards.

I have had frequent correspondence with the man in question since the operation, and he is able to walk, I find, a great distance without any inconvenience. The stump has never given a moment's annoyance, either from pain or ulceration—a fact which argues strongly in favour of cutting the bone, as above-stated, in cases suited to the operation. A good broad surface of bone is afforded for supporting the weight of the body, instead of the narrow sharp point which must bear the pressure in cases where the shaft of the femur is the part cut across. The advantage of rounding the end of the bone in this operation I consider to be very great. It allows the large flap, when brought into position, to lie evenly in contact with every part of the extremity of the femur, and prevents the existence of cavities or pouches for the lodgment of blood or pus. It also obviates the injurious effects of bringing the flap to rest upon sharp angles of bone. This important part of the operation can be accomplished most effectually by the use of Mr. Butcher's or Dr. Bigger's saw.

Art. II.—*Notes on the Climate of the Swiss Alps, and on Some of their Health Resorts and Spas.* By Hermann Weber, M.D.; F.R.C.P., London; Physician to the German Hospital in London.

Switzerland has been, of late, much visited by the inhabitants of Great Britain, and some portions of it are better known to many Englishmen than to the majority of the Swiss themselves. The attention, however, which the medical profession of this country

has paid to Switzerland, as a health resort for their patients during summer, has been comparatively slight. Sir James Clark, to whom we owe so much with regard to our knowledge of the beneficial influence of change of climate in some morbid conditions, has devoted to Switzerland only a few pages in the last edition of his excellent work;[a] and Dr. Scoresby Jackson gives, likewise, only a short description of a few Swiss health-resorts in the same chapter which treats on Germany and Belgium.[b] And yet many localities of Switzerland possess great advantages as summer resorts for invalids of Great Britain. The inhabitants of a country of slight elevation above the level of the sea, with a generally dull atmosphere, and especially the tenants of large cities in such a country will, no doubt, find a greater change by a sojourn in the mountains of Switzerland than in any other inhabitable part of Europe; all the elements included in the term "change" will probably act upon them with greater intensity; and experience has, in reality, amply shown that many morbid conditions of chronic nature are very favourably influenced by the mountain air, combined with the other agencies coming into play in various localities of Switzerland

I should like to be able to give a concise outline of the *climate* of Switzerland; but this is impossible, as it differs considerably in the different portions of which that country is composed, and, in addition, the facts and observations at my disposal, on which I could base such a description, are far too scanty, in spite of the excellent treatises on this subject by the brothers Schlagintweit, by Lombard, Tschudi, Mühry, and others. I will, however, venture a few remarks on some of the principal influences which, in their combination, form the climate of a country.

According to Humboldt,[c] "the expression *climate*, taken in its most general sense, signifies all those states and changes of the atmosphere which sensibly affect our organs: temperature, humidity, variation of barometric pressure, a calm state of the air, or the effects of different winds, the amount of electric tension, the purity of the atmosphere, or its admixture with more or less deleterious exhalations, and lastly, the degree of habitual transparency of the air and serenity of the sky, which has an important influence, not

[a] On the Sanative Influence of Climate. By Sir James Clark, Bart., M.D., &c. Fourth edition, pp. 250–252. 1846.

[b] Medical Climatology. By R. E. Scoresby Jackson, M.D., 1862, Chapter xii.

[c] Cosmos. Edited by Sabine. Vol. i., p. 312.

only on the organic development of plants and the ripening of fruits, but also on the feelings and whole mental disposition of man."

Temperature is probably the most important constituent of climate; and it is a well ascertained fact, not only that the air is warmer in the plains than on the mountains, but that in the same degree of latitude the temperature decreases in a certain proportion with the increasing elevation above the level of the sea; or to use again the words of Humboldt "the decrease of heat is in a perpendicular direction from below upwards." A vertical elevation of about 512 to 556 English feet (480 to 522 French) corresponds to a decrease of 1·0° centigrade (1·8° Fahr.), it produces, therefore, in the average an equal effect to a change of two degrees of latitude from the Equator to the Pole. The aërostatic ascents of Gay-Lussac and others have, to a certain degree, confirmed this law of decrease of temperature with vertical elevation. The proportion of this decrease is, however, not the same in all latitudes and in all seasons. For the Alps of Switzerland the average is, according to the brothers Schlagintweit 166 mètres or 544 feet for 1° centigrade (or 1·8° Fahr.). The elevation required for the decrease of one degree centigrade of temperature is greater in Winter than in Summer, the difference between the Winter and Summer temperatures being less great on the mountains than in the plains; the elevation required is also greater at night, and in the early morning, than during the day. Thus, according to Kaemtz, (*Meteorologie*, p. 210) on the Rigi, the average elevation for the decrease of 1° cent. (1·8° Fahr.) was found to be 489 feet (149 mètres); but at noon it was only 426 feet (129·8 mètres), while it was, at midnight, 554 feet, (163·9 mètres), and at 5 a.m. 610 feet, (186 mètres). Analogous results were obtained by Saussure on the Col du Géant. There are, it need scarcely be observed, many other circumstances which influence the mean temperature of a place in a mountainous country. Thus, according to the brothers Schlagintweit, in the Alps the valleys are, in Summer, warmer than the adjacent plateaux and mountain sides, through the reflection of the heat from the rocks and steep declivities, and the want of movement in the air. The position on the north or south side of the mountain, the presence or absence of glaciers or snowfields in the immediate neighbourhood, the situation on the borders of lakes, and many other local conditions, are all of importance. The neighbourhood of forests, or even a moderate number of trees, tends to render the

air moister and cooler, while on bare rocks and uncultivated pastures, the air is drier and warmer. Notwithstanding, however, the existence of all these minor influences, we may receive, as general laws, that the temperature diminishes with the increasing elevation; and that the daily and annual range of temperature is less great on mountains than in plains (Lombard, *Climat de Montagnes*, p. 8), although the changes of temperature may be more frequent and more sudden, and great differences in temperature may exist between places not far distant from each other.

The barometric pressure is well known to decrease in exact proportion to increasing elevation, to such a degree that at the height of about 16,000 feet the atmospheric pressure is only half as great as at the level of the sea. The daily oscillations are smaller, but the annual range appears to be greater in elevated regions. The diminution of atmospheric pressure is probably one of the most important elements in the physiological influence of the mountainous climates—it implies, not only a diminished pressure on the body, but also a rarified state of the air, the same volume of air which we inhale containing a proportionally smaller amount of oxygen and nitrogen.

With regard to the degree of *humidity* or the quantity of moisture contained in the mountain air the opinions of different observers are in discord. Gay-Lussac, in his celebrated aërostatic ascent found the air in the higher regions more dry than below; Saussure found diminution of moisture in proportion to increasing elevation, in his well-known Alpine excursions; Humboldt, Boussingault, and others found the same in their researches on the mountains of South and Central America. On the other side accurate observers, as Kaemtz, Bravais, and Martins, doubt the greater dryness of the mountain air; and Plantamour, who has compared, in a series of observations, the phenomena on the Great St. Bernard (about 8,100 feet) with those at Geneva (1,240 feet), has arrived at the conclusion that there is no material difference in the hygrometric condition of these two stations, but that there is rather less variation in the degree of moisture on the mountain than in the plain.

We must, however, distinguish between the *relative* and the *absolute* amount of humidity. The warmer air, it is well known, is able to contain a larger quantity of moisture than the colder air; if the colder mountain air were to contain the same absolute amount of moisture as the air of the lower regions, part of it would be at

once condensed into clouds, and fall down as rain or snow. As the temperature decreases with the increasing elevation, it cannot be doubted that the absolute humidity is less on the mountains, although the degree of saturation or the relative humidity may be as great as, and greater, in elevated situations than in plains. In the highest stations, however, the degree of humidity as well absolute as also relative is probably low.

Another important point, in connexion with humidity, is the quantity of rain or snow precipitated in certain localities, and, in this respect, the researches of various observers have shown, that in Southern and Central Europe the mountains receive a much larger share of rain and snow than the plains—at all events up to a certain point—which limit in the Alps of Switzerland may be between 4,000 and 6,000 feet. Local circumstances, as the position towards the south or west, the configuration of the ground, the relation to other neighbouring mountains, and the presence of forests, influence, of course, to a certain degree this phenomenon. At a still higher elevation, viz., above 4,000 to 6,000 feet, it is probable that the quantity of rain and snow becomes considerably diminished, although some elevated stations in Switzerland, as the St. Bernard, form an exception to this rule, which is recognized by most authors on mountainous climates, including Lombard and Mühry, the latter of whom adopts three zones of humidity—the lowest being rich in vapour, the middle rich in rain, the highest poor in rain and vapour.[a] The rapidity of the evaporation and transparency of the air, observed on clear days in high situations, as at the Riffel Hotel, near Zermatt, are in favour of this view.

The degree of *rapidity of evaporation* which is not mentioned in Humboldt's definition of climate, although it is of great physiological importance, may be considered as the product of several other factors, and has probably for this reason been omitted by the author of the *Cosmos*. The principal agents in its production seem to be the degree of density or rarity of the atmosphere, the amount of moisture (which again depends in a great measure on the temperature), the presence or absence of active movement in the air, the degree of radiating power of the sun, and the presence or absence of trees. The rapidity with which killed animals lose the greater part of their moisture, and with which wet articles of dress become dry, manifests the great power of evaporation existing on

[a] Mühry, Klimatologische, Untersuchungen. 1858. p. 34.

elevated places. To this circumstance I am also inclined to ascribe, among other phenomena, the much increased thirst generally observed on high mountains, even by those who take scarcely any exercise; as also the tendency to dryness of the lips and the other parts of the skin exposed to the air.

With regard to the degree of *motion in the atmosphere*, it is a universally admitted fact, that it is much greater in elevated situations than in plains—with the exception of the sea shore; but local circumstances, as the configuration of the surrounding soil, the manner in which a place is situated, either on the top of a mountain or on the incline, or in a valley; the direction in which this valley opens or is protected through adjacent mountains; and a great many other points are to be considered in the appreciation of every single locality. Many of the valleys exhibit remarkable peculiarities with regard to the prevalence of certain winds; and it is not rare to meet, on the same day, in three different valleys, three different winds exhibiting, at the same time, great differences with regard to force and temperature. In mountainous countries there are, in general, two regular currents of wind, viz.:—During the day, when the air becomes warmed, an ascending current from the valleys towards the higher regions; and, during the evening and night, when the air becomes cooled, a descending current from the mountains into the valleys ("Thalwind" and "Bergwind").

Peculiar in its phenomena, and its effects, is the "Föhn" of Switzerland, which blows sometimes with great violence, is remarkably hot, and melts the ice and snow very rapidly,[a] carrying with itself a large amount of moisture. In spite of the latter circumstance rain is not frequent, while the "Föhn" lasts, and clouds hanging round the mountains are often dispersed by it; but as soon as it ceases, and is replaced by a cooler wind, heavy rains are expected. The nervous system of most persons becomes remarkably depressed by this wind; the inclination to undergo exertion is diminished; sleep and digestion are disturbed; the animals too, seem to suffer—effects which closely resemble those caused by the "Vent d'Espagne," in the Pyrenees. North and east winds are, in general, the harbingers of good weather; south-west and west winds of rain.

[a] In the valley of Grindelwald the "Föhn" frequently melts, in twelve hours, a layer of snow of the depth of two and a-half feet. (Tschudi's Alpenwelt. Fifth edition, p. 18. 1860).

The *electric phenomena* on the various Alpine stations have not yet received sufficient attention. It appears probable that in mountainous countries the number of thunder-storms is greater than in plains; and a map constructed by Boudin indicating the relative frequency of accidents caused by lightning, in the various departments of France, shows the occurrence of the greatest number in the mountainous departments.[a]

Not all localities, however, in Switzerland are visited by thunder storms with equal frequency; but those of a moderate elevation (from about 1,500 to 4,500 feet) seem to have the greatest number, while in those above and below this elevation the thunder storms are less frequent, and in the higher situations almost absent. Some ranges of mountains, owing to local peculiarities, are oftener visited than others.

If we were to judge merely from the feeling of strength, from the inclination and ability to undergo muscular exertion, which most people perceive during their stay on higher mountains, we should be inclined to think that the electric condition of the air is more strongly positive on the mountains than in plains and deep valleys. We have, in addition, Saussure's experience, who found the intensity of electricity much more considerable in elevated and isolated places than in valleys and confined situations. We are further entitled to consider the positive state of electricity stronger on mountains from the fact of their temperature being lower, as the observations of Cavallo at Islington, and of Schubler at Stuttgard, have shown, that it is stronger in Winter than in Summer, and that it appears to increase with the cold. Becquerel and Breschet's experiments, made on the great St. Bernard and the Mont d'Or, in France, prove, likewise, that the quantity of positive electricity in the upper regions is greater.[b] Evaporation being an important source of positive electricity in the air, the fact previously mentioned that the rapidity of evaporation is much increased on mountains, may be brought into connexion with the electric condition of the air in elevated situations.

Concerning the *purity of the atmosphere*, it may be maintained that the higher Alpine situations, especially the dwellings situated on the inclines of the mountains and on the elevated plains, are

[a] Traité de Géographie et de Statistiques Médicales. Par T. Ch. M. Boudin. Vol. i., p. 473. 1857.

[b] Traité Experimentale de l'Electricité. Par M. Becquerel. Tom. iv., p. 110-112. 1836.

surrounded by an air free from deleterious exhalations, especially from marsh malaria, while in some of the deep and narrow valleys the air is less pure. The proportion of carbonic acid is probably almost the same in the plains and on the mountains (Saussure, Boussingault, Schlagintweit). The quantity of ammonia in mountain air is very small. The proportion of oxygen varies, according to Regnault and Bunsen, but very slightly, scarcely to the amount of $\frac{1}{1000}$; but it is likely that on the mountains a small portion of it is constantly being transformed into *ozon* (Schönbein).

The habitual *serenity of sky* is, in a great measure, dependent on the phenomena of humidity already mentioned. In the rainy zone, (viz., from about 1,500 to 4,500, or 5,000 feet), mists and clouds are much more frequent than in the plain, and the number of clear days is smaller; while in the still higher localities (viz., above 5,000 feet), the mists and clouds become less frequent and the clear days increase in number. Often, therefore, in ascending a mountain we emerge, all at once, out of the clouds, and see everywhere the heads of the mountains free, while the lower parts are enveloped in mist and clouds. Local circumstances exercise, of course, as great an influence on this phenomenon as on the degree of humidity of various localities.

In connexion with the serenity of the sky may be considered the degree of *intensity of light*, which is, perhaps, of greater physiological importance than is generally considered. We may infer this from the influence exercised by light on the development and functions of plants; and also, from the experiments of W. F. Edwards[a] on the influence of light upon the development of the body—experiments which were performed on batrachia, and which clearly show "that the action of light tends to develop the different parts of the body in that just proportion which characterizes the type of the species" (l.c. p. 401). More recent experiments made, likewise, on batrachia, by Moleschott, prove that these animals excrete, the temperature being the same, for an equal weight of body, considerably more carbonic acid when under the influence of light than when kept in the dark; and that the amount of carbonic acid excreted becomes increased in proportion to the intensity of the light, the light appearing to exercise its influence partly through the eyes, and partly through the skin.[b] Although I am not

[a] De l'Influence des Agens Physiques sur la Vie. Paris. 1824. p. 394.

[b] Wiener Med. Wochenscrift, 1855, No. 43; and Report on Physiology in Brit. and For. Med. Chir. Review. Vol. xviii., p. 229. 1856.

acquainted with scientific researches on the relative amount of light on the mountains, and in the plains, yet it is, I think, impossible for any one, who has stayed for any time in places of high elevation, to escape the impression that the light there is more intense than in the plains. There are, besides the incontestable facts that the day begins earlier, and lasts longer in proportion to the elevation, that the atmospheric strata through which the light is conveyed to us are proportionately thinner, and that on high situations, in general, less light is absorbed and more reflected.

To the intensity of light is naturally related the *degree of insolation* or of exposure to the rays of the sun which, on high elevations, compared with lower situations, takes place during a greater portion of the day, and is more intense, owing to the diminished density of the air, and to the smaller amount of vapour contained in the higher strata.

Before I consider the therapeutical advantages which may be derived from the mountainous climates of Switzerland, I will endeavour to sketch, in rough outlines, their *physiological effects* on the visitor from the plains. These effects differ, of course, considerably, according to the character of the situation selected, and especially according to the elevation above the level of the sea.

Lombard and Mühry arrange the mountainous climates into three or five regions; but, to avoid complication, I propose in these notes to make only two divisions—the *higher* or *true Alpine* region, comprising the localities situated beyond 4,000 or 4,500 feet above the level of the sea, and the *lower* or *sub-Alpine* region, extending from about 1,800 to 4,000 or 4,500 feet above the level of the sea.

The features which both situations have in common are progressive diminution of temperature, and atmospheric pressure with the ascending elevation; therefore, progressively increasing rarity of the air, and, to some degree, also progressively increasing rapidity of evaporation. Further, progressively increasing intensity of light and insolation, greater activity in the movement of the atmosphere, and increasing grandeur and sublimity in the aspect of nature. The electric tension becomes, probably, likewise increased with increasing elevation. The lower or sub-Alpine region is more visited by clouds, and rain, and thunder-storms than the higher or Alpine region; the air contains more moisture in the former than in the latter; the relative amount of humidity in the former may be as great as in the plains, but the absolute amount is certainly lower, and the air of the higher region may be called absolutely and relatively dry. The

changes of temperature are greater, and often more sudden, in the sub-Alpine than in the Alpine regions. The sub-Alpine region is eminently rich in vegetation—it is the zone of forests; in the Alpine region the trees gradually become rarer and more stinted in growth, until we meet only with shrubs like the *rhododendron* ("Alpen-rose," "Rose des Alps"), and still higher with only the short Alpine grass, interspersed now and then with some other hardy flowers, as species of *gentiana*, *ranunculus*, *saxifraga*, *anemone*, and others, which often reach to the very limit of the "perpetual snow."

In glancing at the different functions of the animal economy, it appears that the *respirations* become deeper and, especially if any exercise is taken, more frequent than in the plains. There is a sensation of easiness in the respiratory acts, as if it were a pleasure to inspire deeply, or as if some pressure were taken away from the walls of the chest.

These observations are equally true for the sub-Alpine and Alpine regions, excepting, perhaps, the highest elevations, viz., above 10,000 or 12,000 feet, which do not come here into consideration, as Switzerland has, with the exception of the chalet on the St. Theodul Pass, no inhabited locality beyond 10,000 feet; but already, at the elevation of 6,000 or 7,000 feet, some persons are obliged to breathe much more quickly than they usually do, especially during the first few days of their stay, whenever they mount a moderate hill, and are compelled to stand still frequently, from being out of breath. It is easy to understand that the increased respiratory movements are rendered necessary by the greater rarity of the air, each volume of which contains a smaller amount of oxygen in direct proportion to the elevation than the same volume of air on the plains. It is probable, though accurate experiments are wanting, that the quantity of oxygen inspired on the mountains is, owing to the larger and more frequent respirations, as great and greater than in the plains. It is much to be desired that this question will soon be settled by scientific experiments and observations; and the same may be said regarding the still more important point of the quantity of carbonic acid and water exhaled in high situations.[a]

[a] In a recent work on Mexico, by Jourdanet, it is stated that foreigners do not become acclimatized to the higher regions of Mexico, owing to an imperfection of respiratory endosmosis, which induces in those residing in Mexico and Puebla a kind of anemia. Those who inhabit those higher regions are said to breathe less rapidly, the rarity of the air producing an apathy of the muscular system. The number of

With regard to the *circulation*, the contractions of the heart become, if I may judge from frequent observations made on myself and some other healthy persons between twenty and forty years of age, more frequent than in the plains; this is observable already, at an elevation of between 3,000 and 4,000 feet, but becomes more so between 6,000 and 8,000 feet. Thus, at Geneva (1,240 feet), in September, 1861, my pulse was, in the morning and when at rest, between 65 and 68; two days later, at Chamounix (3,450 feet), likewise in the morning and when at rest, and without having in the meantime undergone any unusual exertion, it was between 70 and 74; and on the following morning between 74 and 76, after I had taken much exercise on the previous day. In 1863, on August 31st, at Coire (about 1,800 feet), 65 to 66; on September 1st, at St. Moritz (5,860 feet), 72; on September 2nd, at the same place, 72 to 73; on September 3rd, at Pontresina (about 5,700 feet), 74; on September 4th, at Schuls (about 3 300 feet), 68 to 70; on September 5th, at Pontresina (about 5,700 feet), 72 to 75; on September 6th, at Sondrio (about 1,100 feet), 64 to 66; September 7th, at Bellagio (about 690 feet), 64 to 65; September 8th, at Lugano (about 900 feet), 65 to 67; September 9th, at Isola Bella (about 650 feet), 63 to 65; September 10th, at Milan (380 feet), 65; September 11th, at Chatillon (about 1,680 feet), 66 to 68; September 12th, at Le Breuil (6,585 feet), 72 to 75; September 13th, at the Riffel Hotel (about 8,430 feet), 76 to 80; September 14th, at the

expansions of the chest is stated to be diminished; "and not unfrequently, forgetting to respire, one is obliged to compensate by making deep inspirations." These remarkable assertions have induced M. Levy, the Director-General of the French Army, to invite several medical men now stationed at Mexico to examine this subject, and especially "to count and compare with exactitude the respiratory movements observed amongst Europeans and natives on the high plains of Mexico, and to dose the carbonic acid expired as a measure of the energy of the hematosis." M. Léon Coindet has already forwarded the results of 1,500 observations which he has made upon the French and Mexicans in illustration of the first portion of the problem. These have been made, 500 at the time, at three different periods, and all agree in the general results, that men placed on the high plains of Mexico do not respire less rapidly than those who live 2,277 mètres lower down, the general mean being 19·36 per minute for the French and 20·297 for the Mexicans. . . . He awaits farther opportunity to investigate the amount of chemical action which takes place; but in the meantime he asserts that there is nothing indicating that the respiratory function is less active than at the sea level. . . . The so-called Mexican anemia is probably nothing else than the yellow colour proper to the indigenous inhabitants. . . . Examining the pulse in 500 subjects, M. Coindet found the mean to be 76·246 among the French and 80·24 among the Mexicans. . . . M. Coindet, writing in October, states, that nothing can be better than the health of the army at that period."—*Medical Times and Gazette*, 1863, Vol. ii., p. 620.

same place, 78 to 80; September 15th, at Zermatt (about 5,315 feet), 72 to 74; September 16th, at Visp (about 2,200 feet), 69 to 70; September 17th, at Obergestelen (4,450 feet), 70 to 72; on September 19th, at Engelberg (3,289 feet), 69 to 70. There may have been, of course, other circumstances which have influenced my pulse besides the mere elevation, but I have, as much as possible, eliminated them by taking the observations in the morning before breakfast, and before any exercise was taken. A gentleman, of thirty-two, whose pulse is usually between 65 and 70 when living on a plain, had, in the morning of September 10th, at Geneva (1,240 feet), 70; on the 12th, at Zermatt (5,315 feet), 72; on the 13th, at the Riffel Hotel (8,430 feet), 80; on the 14th, at the same place, 82 to 84, after having undergone considerable fatigue on the previous day. Another gentleman, when living on a plain, having usually a pulse of 66 to 68, had, on September 10th, at Geneva (1,240 feet), 70; on the 12th, at Zermatt (5,315 feet), 74; on the 13th, at the Riffel Hotel (8,430 feet), 74; on the 14th, at the same place, 75, having undergone, on the previous day, the same fatigue as the former gentleman. A guide, a man of about thirty-two years, accustomed, of course, to mountain exercise, and usually residing at an elevation of about 4,000 feet, had, on the morning of September 11th, at Chatillon (1,680 feet), after a night's rest, 64 to 65; on September 12th, at Le Breuil (6,585 feet), 69 to 70; on September 13th, at the Riffel Hotel (8,430 feet), 72; on September 14th, at the same place, 71 to 72. I could add the details of observations on seven other persons, all tending to show, with a single exception, that, as a rule, the heart's contractions become increased in frequency as we ascend from plains into elevated regions. It does, however, not follow from these observations that the same increased frequency of the pulse continues if the stay in elevated situations is protracted for weeks or longer periods—a question on which I have not been able to collect observations.

There are some other observations extant on the frequency of the pulse on higher mountains, but it is difficult to eliminate in these observations the influence of exertion, which in many persons is very great. Thus, when I arrived at the top of the *Cima di Jazi* (12,527 feet), after several hours' walking over ice and snow, my pulse was 132; while, after two hours' rest and a good luncheon on the top, it was only 115; the pulse of the guide, accustomed to such exercise, was, on arrival, 108, and two hours later only 84—its

usual rate being 64; on the St. Theodul's Horn (about 11,200 feet), after scarcely three hours' mounting, my pulse was only 100, that of the same guide as before 90; an hour later, without luncheon, my pulse 92, that of the guide 80; immediately after the descent from the Horn to the chalet on the St. Theodul Pass (10,899 feet), my pulse 95, that of the guide 82; and an hour later, after some breakfast, my pulse was 88, that of the guide only 72. To give another instance, on September 16th, at 10, a.m., at Viesch (about 3,700 feet), my pulse was 69 to 70, that of a guide, a robust man, about forty years of age, in the daily habit of climbing, was 68 to 69; three hours later, immediately after arriving on the top of the Eggischhorn (9,656 feet), after a rather forced ascent of the steep mountain, at 1, p.m., my pulse was 128 to 130, that of the guide only 80; after two hours' rest my pulse was 95, that of the guide 78.

These observations, which I might multiply, show how much the exercise connected with the ascent influences the pulse-rate, and also, how this influence varies with different people, according to their habits, their peculiarities in the circulation, or in their nervous system.

Another source of error may be that some persons during the first week of their stay in the mountains, owing, probably, to the combined influence of unwonted exercise and of the mental excitement caused by the greatness of the surrounding scenery, are apt to be in a state of pyrexia, more or less marked. I have made this observation on several other persons, and repeatedly on myself—the pulse remaining for three or four days always above 90 or 100; and the temperature varying from 37·5° to 38 5°, and even 38·8°, centigrade (98·6° to 101·3°, and 101·8°, F.).

The acceleration of the pulse during such a state of the system ought, of course, not to be attributed to the influence of elevation alone.

The most valuable information on the action of elevation alone on the heart and pulse-rate we may derive from the observations of aëronauts, as in their baloon-ascents the influence of fatigue is eliminated. In the ascent of Biot and Gay-Lussac the pulse of Biot had, at the height of 8,935 feet (2,724 metres), 111; that of Gay-Lussac, 80 beats per minute—the usual rate of the former being 79, that of the latter, 62 (*Moniteur Universel, du* 12 *frudidor, an* xii.; or, 30th August, 1804).

Mr. Glaisher's more recent experience is as follows:—

"July 17th, Wolverhampton, on the ground:—

Mr. Coxwell's pulsations in a minute,	74
Mine,	76

At the height of 17,000 feet:—

Mr. Coxwell's pulsations,	84
Mine,	100

On the ground:—

Mr. Coxwell's pulsations,	76
Mine,	76

August 18th, at Wolverhampton, on the ground:—

Mr. Coxwell's pulsations,	76
Mine,	76

At the height of 22,000 feet:—

Mr. Coxwell's pulsations,	98
Mine,	100

At the height of 24,000 feet:—

Mr. Coxwell's pulsations,	100
Mine,	107

On August 21st, at the height of 1,000 feet:—

Mr. Coxwell's pulsations,	95
Mr. Ingelow's,	85
Captain Percival's,	90

At 11,000 feet:—

Mr. Coxwell's pulsations,	90
Mr. Ingelow's,	100
Captain Percival's,	88
Mine,	88
My Son's (a boy in his fourteenth year),	89

At 14,000 feet:—

Mr. Coxwell's pulsations,	94
Mr. Ingelow's,	112
Captain Percival's,	78
Mine,	98
My Son's,	89."[a]

In examining these figures I am inclined to think that Captain Percival, who forms so remarkable an exception to the rule, was

[a] Brit. Med. Journal, 1862. Vol. ii., p. 625.

not quite in a natural or physiological condition; the more so, as Mr. Glaisher himself remarks that "the pulsations of Capt. Percival were so weak that he could scarcely count them;" and Mr. Coxwell, too, if we look at the action of his heart on the occasions of the first two ascents, seems not to have been in his usual state on August 21st, when his pulse was first examined, otherwise his heart would not have contracted 95 times in a minute, at an elevation of only 1,000 feet. Of Mr. Glaisher's son there is no account at a low elevation, we must therefore omit him in our analysis, as also the observation on Mr. Glaisher himself in the third ascent, and have left only the phenomena observed on Mr. Glaisher in two ascents, on Mr. Coxwell in two ascents, on Mr. Ingelow in one ascent. All these, as well as the observations on Biot and Gay-Lussac, corroborate the inference that, as a rule, the heart contracts more frequently in proportion to the elevation above the level of the sea.

A remarkable and early effect of mountain air on lowlanders is the improved state of *digestion*, which is especially observable in dyspeptic persons. The appetite becomes increased—the sensation of fulness after meals, the heart-burn, and similar symptoms of dyspepsia soon disappear. The motions remain in general regular; but in some there is a tendency to constipation, which, however, may in general easily be obviated by taking the white wines of the country instead of the red.

The *blood* becomes, as far as symptoms go, improved in quality; pale lips and cheeks resume their colour often more rapidly than they do under the influence of steel on plains.

The *nervous system* is influenced in a very marked manner by a stay on the mountains; most people perceiving very soon a greater buoyancy of spirits, a diminished irritability of temper, a greater calmness of judgment, and especially a sounder sleep. The change effected in sleep is especially remarkable in many constitutions; I have met with a large number of persons who, for many months, had been deprived of healthy sleep, and who regained it almost in the first night which they spent on the mountains; and this change seems not to be caused by mere change of scene, and relaxation of the mind—it is, certainly, not in all cases caused by these influences. Thus, I am acquainted with a gentleman, a hard-working student and philosopher, who, for many years past, has been in the habit of spending the greater part of his holidays in one of the establishments on the Rigi; his principal complaint, while at work in a university,

is want of sleep; laying hours in bed without being able to fall asleep, and frequently waking after having fallen asleep. This gentleman does not regain his sleep by merely spending his holidays away from home, on the borders of the Rhine, at the sea, or even in a place of low elevation in Switzerland; but whenever he goes to a place beyond 3,000 feet high, he at once enjoys very sound sleep, and does so during the whole of his stay, and even for a few weeks after his return to his usual occupation. This is by no means an isolated instance; I could mention several cases of a similar nature; and, as a rule, it may be said, lowlanders sleep better on the mountains, except, perhaps, in those places where the small sleeping cells are separated from each other only by the thinnest wooden partitions—where you hear every movement of the guests to the side and above you, some of whom arrive late at night, when you had first fallen asleep; while others leave several hours before sunrise. This rule has, however, many exceptions, as there are some persons who never sleep well on elevated situations, although they have often made the experiment. I consider this a fact of great importance, as it shows that there exist other influences on the mountains, acting on the nervous system, besides those of mere change of scene and relaxation of the mind. Another peculiarity connected with this subject is, that the amount of sleep required to restore the body seems to be less on the mountains than in plains. Most tourists, in spite of great muscular exertions, are satisfied with five or six hours of sleep; and some also of those who have spent many weeks in an elevated situation, without taking unusual exercise, have told me that they generally slept, every night, one or two hours less than at home; but, that they did not feel the want of more. We might, perhaps, explain this peculiarity by assuming that the *quality* of sleep on the mountains is different from that obtained in the plains; but it is also possible that the quantity of sleep required by the system is less on the mountains, on account of the diminished exertion of the brain.

In the *muscular system* we observe, on mountains, much greater activity and energy. Persons who are not able, in plains, to walk three or four miles without feeling much fatigued, can walk on mountains ten and twelve, and often many more, without having the sensation of being tired; and if exhaustion has been produced by unwonted exertion, a comparatively short rest suffices to renew the strength. Many people describe a feeling of elasticity in their limbs, or as if their joints were more pliable.

The *skin* is, very probably, likewise more active. The perspiration, it is true, does not so frequently show itself in drops; but this is to be explained by the fact that the greater power of evaporation in the mountain atmosphere prevents the accumulation in drops. The rarified air causing less pressure than the heavier air of the plains, leads, by itself, we may infer, to a greater afflux of blood to the skin; and, the air of the true Alpine region would thus increase the evaporation and transudation of moisture. The observations communicated to me by several medical men, that atonic ulcers in persons coming from the lowlands often heal in the Alps without the use of any remedial agents, may, likewise, be adduced in favour of the view that there is greater activity in the functions of the skin.

With respect to the amount and quality of *urine* excreted on mountains our knowledge is still very limited; I am, at all events, not acquainted with any accurate observations published on this subject. The following insignificant contribution, which I am enabled to make on this point, relates to a healthy man, aged thirty-nine, whose quantity of urine in twenty-four hours varies under usual circumstances: when living in a large town and having little active exercise, from thirty-eight to fifty-five ounces, with a specific gravity of from 1020 to 1029; the daily quantity of urine secreted by this man during six days residence in various places of Upper Italy—at an elevation between 350 and 1,000 feet, and with a moderate amount of active exercise, varied between forty and fifty-two ounces; the specific gravity was taken only of two entire days, on one of which it was 1025, the quantity of urine being forty-six ounces; while it was on the other 1024, with a total quantity of urine of forty-eight ounces. The same person, soon after these observations, during six days stay in elevated situations of Switzerland (between 3,500 and 12,000 feet) secreted, daily, between thirty-four and forty-eight ounces of urine; the specific gravity was taken likewise, only of two entire days, when it was 1029, with a total quantity of forty-two ounces; and 1028, with a total quantity of forty-eight ounces. It ought to be added that rather more fluid was taken, and more active exercise, during the six days on the mountains, than during the same time in the plain; the perspiration being to the sensation greater than during the six days in Upper Italy. Although I do not attribute much importance to these observations, which are obviously on too small a scale, and also otherwise defective, yet they seem to show that the quantity of urine secreted

on the mountains is not considerably different from that secreted in plains, and especially that the specific gravity representing the quantity of solids is not lower, but appears, on the contrary, to be rather higher.

I am still less able to say anything certain on the secretion of *bile*, and the *action of the liver* in general; but from the experiments repeatedly made, that piles, if not of old standing, often disappear after a few weeks' residence in elevated situations, I am inclined to infer that on mountains the circulation through the liver becomes more free, and that the action of this organ becomes more healthy. We may, perhaps, explain this, in part, by the fact previously alluded to, that the blood, owing to the diminished atmospheric pressure, has a greater tendency to the skin and external organs, and that, through this, the liver, spleen, uterus, and other abdominal organs, receive a proportionally smaller amount of blood. The increased respiratory movements assist, probably, likewise in diminishing the passive congestion or sluggish circulation of blood in the abdominal organs.

If I have been unable to speak with any degree of certainty about the functions of various organs and systems as influenced by a residence on mountains, I am still more embarrassed in examining that most important function of the animal economy which is the result of the combined action of all the organs and systems, viz., the *tissue change*. There are, as far as I know, no scientific observations or experiments on this subject on record; and yet it would be of great interest to know whether and how the metamorphosis of tissue in persons usually living in low elevations is altered by a stay on the mountains. We are unacquainted with the quantity of carbonic acid and water exhaled by the lungs; we do not know the quantity and composition of the excretions passing from the skin, the kidneys, and the intestines. If we consider, however, that the appetite and the quantity of food consumed are, in most persons visiting the mountains, greater during their stay on them than they are at home; if we further regard that the activity of the heart and of the muscular system is increased, that the secretion of the skin is very probably augmented, and that the quantity of solids excreted with the urine appears to be likewise rather larger than under usual circumstances, we may be inclined to infer that the tissue metamorphosis becomes accelerated through a stay on the mountains.

On the *pathological character* of mountainous climates we possess valuable communications by Lombard, Meyer-Ahrens, Mühry, and

others; but in spite of them our knowledge of the character of diseases prevalent in high elevations is still very defective. The few remarks which I here venture to make relate only to the inhabited localities of the Swiss mountains, and not to those higher situations of America and Asia, where large populations residing at elevations far surpassing 8,000 feet offer a rich field for observation. I also pass over the interesting and more transitory morbid phenomena, perceived by many persons during the first days of their stay in high elevations, which have been so well described by Meyer-Ahrens, in his work on the "mountain illness," or "mal de montagne," or "Bergkrankheit" (*Die Bergkrankheit oder der Einfluss des Ersteigens grosser Höhen auf den thierischen Organismus*, von Dr. Meyer-Ahrens. Leipzig, 1854), as these phenomena occur rarely in Switzerland, in a well-marked manner, at elevations below 7,000 feet, and are, therefore, scarcely observable at those localities which may serve as health resorts. Occasionally, however, we meet, even in these lower elevations, in some constitutions, with morbid conditions which are no doubt caused by the influence of the mountain air, in conjunction frequently with that of unwonted exertion. Thus, I have repeatedly witnessed in different persons a moderate amount of pyrexia lasting several days; in others vertigo, or palpitation of the heart, attacks of asthma, loss of appetite, great dryness of the mucous membrane of the fauces and of the nares, injection of the conjunctiva, obstinate constipation, probably from diminished intestinal secretion, muscular weakness, and various other symptoms.

Amongst the diseases of the inhabitants of the Swiss mountains, and those residing there for longer periods, the *inflammatory diseases of the respiratory organs* occupy the most prominent places—*pleuritis*, *pneumonia*, and *bronchitis* being of much more frequent occurrence than in the plains. Thus, Grisolle states, in his Treatise on Pneumonia, that many of the soldiers of the French army, stationed on the Mount Cenis (above 6,000 feet), in 1796, contracted pneumonia, which affection formed the fourth part of all the diseases then prevalent. Dr. Brügger, who practises at Samaden and St. Moritz, in the Upper Engadin (elevated between 5,000 and 6,000 feet), describes pneumonia and pleuritis as very frequent among his patients—an experience which is shared by almost all the medical men practising in the higher portions of Switzerland. The deaths from pneumonia form, in some parts, one-third of the entire mortality (Lombard, l. c., p. 72). Occasionally a malignant form of

pneumonia, or pleuritis, or pleuro-pneumonia, popularly known under the name of "Alpenstich," is observed to occur epidemically. Lombard infers from various communications, especially Guggenbühl (*Der Alpenstich endemisch im Horhgebirge der Schweitz*, 1838), that "the Alpenstich is sometimes a pleuritis, sometimes a pleuro-pneumonia, but always attended with typhoid symptoms of very rapid course and most frequently fatal termination" (l. c., p. 75).

The various forms of *asthma* are likewise very prevalent; the complex of symptoms, which usually is designated by the term "asthma," occurs so frequently amongst the inhabitants of the Swiss mountains that it has led to the adoption of the term "Berg-asthma," or "asthma montanum;" but, as far as my own observations go, the "asthma montanum" has nothing peculiar, but is sometimes caused by emphysema, sometimes by thickening of the mucous membrane of the bronchi, sometimes by partial compression of the lungs and adhesions, and sometimes by heart disease.

Chronic catarrh of the bronchi or chronic *bronchitis* is, naturally, likewise very prevalent, and is one of the originators of "asthma."

Tubercular phthisis occurs not rarely in the lower mountainous or sub-Alpine region, but in the true Alpine region it seems to be almost absent. Thus it is of very rare occurrence among the priests on the Great St. Bernard; and Dr. Brügger has scarcely ever observed it amongst those inhabitants of the Upper Engadin who have not resided in other countries, and has further found that this disease is generally cured, in natives of the Engadin, when they return to their mountains, before it has made great progress. Dr. Albert, of Briançon, in the Dauphiné (4,283 feet above the sea level), bears, according to Lombard (l. c., p. 93), the same testimony. These observations are quite in harmony with what we know of the occurrence of tubercular phthisis in other mountainous countries. Thus patients affected with phthisis at Lima are sent on the adjacent mountains of Peru, where phthisis is scarcely known at an elevation of about 8,000 feet. It is described as very rare at Mexico (7,000 feet) and Quito (8,700 feet), and still more so in higher elevations. The elevation, beyond which phthisis becomes rare or is absent, seems to vary considerably in different latitudes, and to become lower as we proceed towards the Poles. In the tropical zone it may be regarded as becoming rare above 7,000 feet; in the warmer temperate zone, above 3,500 to 5,000 feet; in the colder temperate zone, above 1,300 to 3,000 feet elevation. In Switzerland, between 46° and 48° N. lat., the frequency of its occurrence diminishes

above 3,000 feet; in the Black Forest, between 47° and 49° N. lat., above 2,500; in the mountains of Thüringen and Silesia, and in the Harz, between 50° and 52° N. lat., above 1,200 to 1,400 feet. Fuchs (*Medicinishe Geographie*, 1853, p. 35,) states that at Brotterode (1,840 feet), in the mountains of Thüringen, the per-centage of deaths from phthisis is only 0·9. Brehmer assures us that in the neighbourhood of Görbersdorf, in Silesia (1,700 feet), tubercular phthisis has never been seen by him amongst the inhabitants—(*Die Chronische Lungen-schwindsucht.* Berlin, 1857, p. 134)—an observation which Dr. H. Beigel, who has for several years resided at Reinerz (1,700 feet above the level of the sea, and very near to Görbersdorf), has, in a personal communication to me, to a great degree confirmed.

Scrofulous affections, in all their varieties, are not rarely met with in the Alps, especially in the narrow valleys. The insufficient food, the want of sunlight in the deep valleys during the greater part of the day, the crowded and ill-ventilated condition of the dwellings, to which the inhabitants are confined during by far the greater part of the cold season, and which they share with their beasts, offer ample reasons for the explanation of this circumstance, which certainly ought not to be attributed to mountain air—the less so as in the true Alpine regions these affections are almost absent, or existing only in mild forms, as testified by Dr. Brügger for the Upper Engadin, and by several other medical men practising in the higher Alps (Lombard, l. c., p. 97).

Cretinism and *goitre* are well known to be diseases of mountainous countries; but their occurrence again is to a great degree restricted to the valleys, while they become less frequent on the higher mountains, and are very rarely seen in the Alps above 5,000 or 6,000 feet. *Goitre* has, however, a greater extension than cretinism; it descends lower towards the plain, and reaches to a higher elevation—it is, in fact, occasionally seen in the highest habitations. The elevation at which these diseases are most prevalent varies in different latitudes; it is much higher in the hot zone, where it is said to occur as high up as 12,000 and 14,000 feet (Lombard, l. c., p. 100).

The same conditions which have just been mentioned as favourable to the appearance of scrofula are probably also active in the development of cretinism and goitre; and frequent intermarriage between consanguineous relations, plays, it has been ably argued, likewise an important part in their production. Removal to well

exposed and well ventilated habitations on high plains, or on the inclines of mountains near the summit, is regarded as the most effective means of cure and prophylaxis.

Rheumatic affections are described by most medical men on the Swiss mountains as of frequent occurrence; and especially in their chronic forms. Allied diseases, too, are comparatively often met with, as sciatica and diseases of the heart. These remarks apply, however, principally to the lower or sub-Alpine regions, where there is much rain and mist, therefore often a damp and cold atmosphere, while in the higher or true Alpine regions, with their drier air, rheumatic affections are said to diminish in frequency and severity.

Hemorrhages have been described as frequent in the sub-Alpine, and still more so in the Alpine regions; but Dr. Brügger's experience in the upper Engadin shows only a greater frequency of epistaxis, metrorrhagia, and hematemesis, while hemoptysis has been found of rare occurrence.

Diseases of the *nervous system* are, according to Lombard (l. c., p. 85) and Werber (*Die Schneizer Alpenluft*, 1862, p. 44) less frequent, and less severe than in the plains.

Diseases of the *intestines* and *liver* are rare in the Alpine regions, and less frequent in the sub-Alpine than in the plains, except some dyspeptic affections caused by insufficient or improper food.

Typhus and typhoid fever, *small-pox*, *scarlatina*, and *measles* seem not to be influenced by elevation; at all events not by elevations which are regularly inhabited in the Swiss Alps.

Cholera, on the contrary, has been hitherto of very limited occurrence in Switzerland.

Ague is very rare in the upper part of the sub-Alpine, and in the true Alpine regions; in some broad valleys, however, exposed to occasional overflow of the rivers passing through them, as the valley of the Rhone, it is rather prevalent; and in the neighbourhood of such valleys it is occasionally met with at the highest elevations. Thus, Lebert, the well known pathologist and clinical teacher, who for several years has resided at Lavey, in the valley of the Rhone, has attended some cases in the Chalets d'Azeindas (nearly 6,000 feet high) without discovering any marshes in the immediate vicinity. Lombard's explanation (l. c., p. 87) that some of these cases may be caused by miasma which had been attached to the mist originated in the lower valley, and carried up with it to the heights, is very plausible, as also the assumption that occasionally

the time of incubation of ague is very long, and that the germ may have been contracted in the marshy plain or valley, while the symptoms of the developed disease may become apparent after weeks on the height of the mountains. Thus it has repeatedly happened to me, that I had to attend at the German Hospital at Dalston, a locality quite free from marsh miasma, some cases of ague with enlarged spleens, in persons who had left the aguish districts of Hanover or Holland, from which they came, four and six weeks before—in one case even more than two months before—and who had never previously suffered from ague, and had not resided in an aguish district in the interval between leaving their homes and applying at the German Hospital.

Exceptional cases, as those observed by Lebert, and local peculiarities, need, therefore, not weaken the general rule that the aguish affections diminish in frequency and severity in proportion to the increasing elevation.

In now passing over to a short sketch of the morbid *conditions which may be benefited* by a residence on the Swiss mountains, we place at the head the *disturbances of digestion.* Those who suffer from want of appetite, sense of weight and painful distension, acidity and eructations after taking food; those who feel heavy and irritable in mind during the process of digestion, derive, in general, more benefit from a stay on the mountains than from any other change of air. The appetite soon re-appears, the depression and other morbid symptoms during the period of the digestion soon cease to be felt; articles of food which never can be taken under usual circumstances, cause, after a short stay on the mountains, not the slightest disturbance; the form of hypochondriasis, too, which may be called the dyspeptic hypochondriasis finds, therefore, quite naturally, a remedy in the higher Alpine situations. Invalids ought, however, to be cautioned not to be too careless in the beginning with regard to the quantity and quality of food, as the appetite under these circumstances sometimes surpasses the digestive powers.

The atonic *diarrhea*, not rarely observed in people returning from hot climates, and the irregularity of motions, constipation alternating with diarrheic stools, admixed with blood and mucus, as seen sometimes after dysentery and other affections of the colon, are in general cured on the Alps, where there is in new comers rather a tendency to constipation.

The improvement in the *sanguification*—the product of the

improved digestion, and the stimulation given on the mountains to the respiration and circulation—renders the higher Alps especially beneficial to those weakened by acute diseases, and by loss of blood. The various forms of *anemia* or *oligemia*, and of *hydremia* and *chlorosis*, if not dependent on serious organic diseases, find an effective remedy in the sub-Alpine and Alpine climate, and above all, those patients among them who are unable to bear steel and the usual tonic remedies. The anemia caused by intermittent and remittent fevers, combined often with swelling of the spleen, deserves likewise to be particularly named, as well suited to the mountain air of Switzerland; Europeans, therefore, returning from hot countries, where they have suffered from the effects of malaria, derive great advantage from a Summer and early Autumn spent at the elevated resorts of the Alps or Pyrenees. In several instances I have also seen great benefit accruing from mountainous climates on the anemic conditions connected with lead and mercury cachexias.

The anemia depending upon *organic diseases of the heart* can, of course, not be altogether cured by Alpine climates, yet I do not agree with those who declare mountainous climates as absolutely injurious in heart affections; as I have repeatedly seen that very marked advantage was derived by persons suffering from long-standing valvular diseases of the heart, even combined with anasarca, from a residence in sub-Alpine districts during four or six weeks, as Interlacken, Thun, Grindelwald, Brunnen, Beckenried and Engelberg, in Switzerland; and at Ischl, Meran, and Botzen, in the Tyrol. Such invalids must, of course, be cautioned respecting too much active exercise; and the highest situations would probably not prove so beneficial on account of the increased frequency of the heart's contractions caused by slight efforts.

With regard to *scrofulous affections*, I do not hesitate to say that scofulous children are eminently benefited by the mountainous climates of Switzerland, especially in the higher regions. The nutrition becomes rapidly improved, scrofulous sores heal quickly, and the swelling of glands is, in a short time, sensibly reduced. It cannot be raised as an objection that scrofula is prevalent among the peasants and the poorer classes of Switzerland, for, as stated already, their food is insufficient, the dwellings, in which they are crowded together for several months, are unhealthy in construction, situated often in narrow, sunless valleys, or corners, and surrounded, in addition, by dung-heaps or by trees, increasing the humidity of

the atmosphere. The influence which the manner of living exercises on the development of scrofula and consumption is well exhibited by comparing the state of health of the male and female population in the Canton of Appenzell. Most of the men are strong and healthy-looking; scrofula and consumption are rare amongst them; most of the women, on the contrary, are weakly, pale, and ill-developed; consumption and scrofula are of very frequent occurrence. The occupation of the men consists in tending their flocks, in hay-making, and other out-door work; their food is milk, cheese, bread, and sometimes meat. The employment of the poor women consists in making the well-known Swiss embroidery; their food consists principally of potatoes, cheese, and bread. Much valuable information on this subject I owe to Dr. Hirsch, of Appenzell. Most depressing is a visit to the workrooms of these poor creatures. There they sit, crowded together, Summer and Winter, in small ill-ventilated rooms, in a stooping position, some of them even before reaching the twelfth year of age. The circumstances in which visitors are placed are naturally very different; they have ample and wholesome food, the houses built for their reception are comparatively well constructed, most of them erected on eminences or inclines, where the atmosphere is constantly renewed, and the light of the sun is freely admitted. It may further be said, that the unhealthy season for the poor Swiss is the cold season, during which no visitor would think of remaining on the mountains.

Tubercular disease, if not too far advanced, may be much benefited by the Alpine and sub-Alpine climate. The fact, that the disease does very rarely occur beyond a certain elevation, which in Switzerland we may assume to be 3,500 feet, would by itself recommend the residence in the Alpine regions as a prophylactic means to those affected with an hereditary disposition. Nothing improves the nutrition more, nothing strengthens the lungs more, nothing can cause a sounder condition of the heart (which organ plays, perhaps, a greater part in the causation of tubercular phthisis than generally thought) than the systematic climbing of mountains in a dry atmosphere. With regard to those who exhibit already the first symptoms of tubercular phthisis, I cannot speak with quite the same confidence; yet I have several striking instances before me, which, to a great degree, corroborate the statement of those who recommend the true Alpine climate as the most effective remedy against consumption in its first stage.

Of one thing I became convinced during the last years, namely, that systematic climbing, *i.e.*, beginning moderately, and gradually increasing as regards distance and steepness of ascent, is not only not injurious in the early stages of consumption, but eminently useful. The more advanced stages of tubercular phthisis, on the contrary, ought not to be sent to the true Alpine regions, the course of the disease becoming accelerated on high elevations; but in the lower sub-Alpine region there are still to be found some situations where such patients may find alleviation.

Among the other diseases of the respiratory organs, the *chronic catarrh of the bronchi*, attended with profuse expectoration, is considerably mitigated in the higher regions of the Alps, and particularly so at those places where there are abundant pine forests, the exhalations from which appear to act very favourably. The frequent changes of temperature must, of course, render the invalid of this class cautious with regard to articles of dress.

Whooping cough is likewise much benefited on the Alps, provided dry and sunny residences are selected.

Emphysema of the lungs, when in an advanced state, as also the *asthma* depending on it, *chronic pneumonia*, *empyema*, and *other morbid conditions following pleuritis*, are, in general, not advantageously influenced by the mountainous climates.

Gouty persons, when careful, are often much improved by a stay in the higher Alpine regions; the improved state of digestion and sanguification, together with the increase of excretion through the skin and lungs, offer ample explanations for this improvement.

I have, as yet, not been able to gain sufficient information on the manner in which *chronic rheumatism* is influenced by the higher Alps. In the lower and more humid situations it is admitted to become often aggravated; but in the higher situations, where the air is more dry, inveterate cases of muscular rheumatism (lumbago and sciatica) have, I am told, repeatedly been cured. The beneficial influences just mentioned under the head of gout are likely to improve the general health, which is often much impaired in such cases, and, through this, the local affection.

Amongst the *disturbances of the nervous system* the *various hysterical affections*, especially those depending upon oligemia, are much benefited. The muscular weakness sometimes associated with hysteria I have likewise repeatedly seen removed by a residence on high mountains. The *hypochondriasis* caused by dyspepsia I have mentioned already as amenable to the influence of the Alpine

climate. The *sleeplessness*, or the defective and disturbed sleep, from mental over-work, from anxiety, from sedentary habits, and dyspepsia, finds nowhere so ready a cure as on the higher Alps.

Neuralgic affections connected with oligemia, with rheumatic disposition, with miasmatic influences, or other depressing agents, are often mitigated and cured in the Alpine region. *Periodic headaches*—these horrors of our profession—stay sometimes many months away after a prolonged stay at a high elevation; but in other cases I have seen no benefit accruing from this change.

Persons disposed to *congestive affections of the brain*, or to apoplexy, are rather endangered than benefited by the more elevated mountainous climates.

In concluding these notes on the climate of the Swiss Alps in general, I will recapitulate the principal points discussed in the following summary of its meteorology, its physiological, pathological, and therapeutical influence:—

1. The *temperature* is lower; it decreases in proportion to the increasing elevation at the average rate of 1° centigrade (1·8° F.) for every 544 feet. The annual and monthly variations are less great on elevated places than in plains.

2. The *atmospheric pressure* decreases, or the air becomes thinner with the increasing height.

3. The *absolute amount* of *humidity* in the air becomes probably less with the increasing elevation; but the *relative amount*, or the degree of saturation, is, in general, greater in the lower mountainous regions—viz., from about 1,500 to about 4,000 or 5,000 feet high—than in the plains; while in the highest regions—viz., above 6,000 and 7,000 feet—the absolute and relative degrees of humidity are diminished.

4. The *rapidity of evaporation* is increased in the higher mountainous regions.

5. The *motion in the atmosphere* is considerably greater on the mountains than in the plains. There are, however, great variations, depending on local circumstances, in addition to the peculiarities more or less common to the whole district of the Swiss Alps ("mountain" and "valley currents;" "Föhn").

6. There are more thunder-storms in the lower mountainous regions of Switzerland than either in the higher regions or in the plains. There is a greater amount of positive electricity in the air on the top of mountains than in lower regions.

7. The air of the higher regions of Switzerland is free from

marsh malaria; the amount of ozon is probably greater on mountains than in valleys and plains.

8. The sky is, in the sub-Alpine regions, more frequently dull by mist and clouds than either in the plains or higher Alpine regions.

9. The degree of insolation or exposure to the rays of the sun is greater on elevated situations.

Concerning *the physiological influence* of the mountainous climates on the visitor, we may assume:—

10. That the respiratory movements become increased in frequency and depth, with increasing elevation, there being no exact experience with regard to the amount of oxygen inhaled and carbonic acid and water exhaled.

11. The contractions of the heart become more frequent in proportion to the elevation.

12. The appetite becomes increased; the thirst is likewise, in general, augmented.

13. The sanguification is improved.

14. The nervous system becomes invigorated, the sleep, in general, more healthy.

15. The activity and energy of the muscular system become increased.

16. The secretion of the skin is most likely augmented.

17. The urine appears to be not materially altered in quantity; the amount of solids being probably slightly increased.

18. The metamorphosis of tissues is, we may infer, accelerated.

With regard to the *pathological character* of the Swiss Alpine climate, it has been shown that:—

19. The prevalent diseases are the inflammatory affections of the respiratory organs, and their results, chronic catarrh, emphysema, and asthma; goitre and cretinism, and scrofulous complaints; rheumatic affections and diseases of the heart; which affections are, to some degree due to the unfavourable hygienic conditions in which most of the inhabitants of the Swiss mountains live, while others are dependent upon the meteorological peculiarities of the climate, and especially the unfavourable influences prevalent during the cold seasons.

20. It has further been shown that in the true Alpine regions tubercular consumption is extremely rare, as also cretinism; and that on the whole, with the increasing elevation, the following affections become much less frequent:—ague, acute diseases of the

liver, hemorrhoids, diarrhea and dysentery, yellow fever, and cholera.

21. The *beneficial influence* of the mountain climate is especially felt in various forms of dyspepsia and dyspeptic hypochondriasis, in the atonic diarrhea, anemia, and want of tone, observed in people returning from hot climates; in the cachexia, with or without splenic tumour, caused by marsh malaria; in the various forms of anemia, chlorosis and hydremia, not dependent upon serious organic disease; in scrofulous complaints; in the tendency to tuberculosis, and in its first stage, especially on the higher regions, while in the slightly advanced forms some of the lower and more sheltered situations only ought to be resorted to; in chronic bronchial catarrh with abundant secretion. Sleeplessness, hysterical, and neuralgic affections, as also hypochondriasis are often removed by a stay on the Alps.

(*To be continued.*)

Art. III.—*Observations on the Treatment of Certain Forms of Epilepsy. Bromide of Potassium.* By Robert M'Donnell, M.D., F.R.C.S.I., Surgeon to Jervis-street Hospital.

Dr. Marshall Hall has observed that there is no royal road to the cure of epilepsy; indeed he goes so far as to say that the idea of a remedy for the disease is unphilosophical. Without going quite to this extreme I may say that I believe few persons will read the works of the most distinguished writers on the subject without soon becoming convinced that complaints widely differing from each other in many respects have been grouped together by authors under the name of epilepsy and epileptiform seizures. If one even considers the theories of epilepsy, as they are called, which have, from time to time, been propounded for the class of complaints characterized by sudden loss of consciousness and convulsion, this alone is enough to show the absurdity of supposing that any one main road can lead to the cure of affections marked, it is true, by these salient features, but otherwise differing from each other. The perusal of recorded cases of epilepsy, so various in the causes which have produced them; the study of the endless varieties of treatment, and of cures, reported by trustworthy persons, as resulting from remedies little resembling each other in their physiological action, leads also to the conviction that a multitude of affections have

been thrown together under the name of epilepsy. In truth the more one sees of what we call epilepsy the more one becomes convinced that each case of this affection is, in itself, a study; and the more one is induced to hope that the careful investigation of individual cases will eventually lead to a more precise knowledge of the circumstances which make special remedies useful in particular forms of the disease.

It is with the view of directing the attention of practitioners to the use of a remedy—bromide of potassium—which, if due discrimination is practised in the selection of the cases for which it is suited, will, I very confidently state, be found one of singular efficacy, that I make the following brief communication. I am very well aware that many medical men have already recognized the value of this remedy. I do not speak of its use as any novelty. Sir Charles Locock, in 1853, bore strong testimony in its favour; since then Dr. Brown-Séquard, Dr. C. Bland Radcliffe and others, with an experience far beyond what I can boast, have added the weight of their evidence in the same direction. Dr. Radcliffe says:—"I can testify that this remedy has proved more or less serviceable in cases the most dissimilar in character; so serviceable that the name of Sir Charles Locock ought to be remembered with gratitude by every epileptic, and by many suffering from other forms of convulsive disorder."

Sir Charles Locock, writing in 1853, says:—"About fourteen months ago I was applied to by the parents of a lady who had hysterical epilepsy for nine years, and had tried all the remedies that could be thought of by various medical men, myself among the number, without effect. This patient began to take bromide of potassium last March twelve-month, having just passed one of her menstrual periods, in which she had two attacks. She took ten grains, three times a-day, for three months; then the same dose for a fortnight previous to each menstrual period; and for the last three or four months she had taken them for only a week before menstruation. The result has been that she has not had an attack during the whole of this period. I have only tried the remedy in fourteen or fifteen cases, and it has only failed in one, and in that one the patient had fits not only at the time of menstruation but also in the intervals."

I have learned from Dr. Brown-Séquard, who has used the bromide very extensively, that he also entertains the highest opinion of its efficacy. For my own part, being full of scepticism

with regard to the utility of many drugs much boasted of, and not, I must own, being rendered less sceptical by the large per centage of cures effected in the fourteen or fifteen mentioned by Sir C. Locock, I commenced using the bromide without being very sanguine as to success. I now confess that I have found it in some cases a drug of remarkable efficacy, although not so powerful in altogether stopping the attacks as it has been in the hands of Sir C. Locock.

E. L., aged twenty-three years, housemaid, had her first attack on the morning of July 4th, 1861. She was a robust, healthy-looking young woman, of florid complexion, never had convulsions in childhood, neither was she aware of any member of her family being epileptic. She was found, on the day above-mentioned, lying on the drawing-room floor, insensible and convulsed. Her second attack occurred on the 1st of August, 1861, before getting out of bed in the morning; she did not shriek, a gurgling sound in her throat first attracted the notice of a fellow servant; she was violently convulsed; she foamed at the mouth, but did not bite her tongue. The fit lasted for about half an hour; she was with difficulty prevented from rolling out of bed; loss of consciousness was complete; continued drowsy for the rest of the day, and oppressed with headache. The patient was ordered doses of castor oil and turpentine, repeated every third day, for a fortnight; no intestinal worms were discovered.

On August 27th another attack took place, and again on September 19th. It now appeared that the first and second attack had occurred at the menstrual period, the third at a time about which the menstrual illness was expected, but was absent, and the fourth again occurred during the illness. The patient was ordered ten grains of bromide of potassium, three times a day; and this was steadily continued, with but with short intermissions, until May, 1862. During this time there was no recurrence of the attacks. I last saw this patient before Christmas, 1862, up to which time she had continued free from attacks.

Sarah O., aged twenty-five years, a small slightly made young woman, of light complexion, has been (July, 1860) subject to "fits" for four years, not occurring only at the menstrual periods, but more frequent and severe at that time. On July 9th she had two attacks, in one of which I saw her, as I happened to be visiting a

child at the house at the time. Again, on July 10th, I saw her, from the commencement to the end of an attack which lasted six minutes, and was considered a slight one. On the 15th I again witnessed an attack of a more severe character, which lasted eleven minutes. The attacks were decidedly epileptic so far as complete loss of consciousness and convulsions were concerned; the patient did not cry out, but drew a deep sudden inspiration; she did not bite her tongue, but foamed at the mouth. She had no warning of which she was herself conscious, but besides its being known that her attacks were likely to be much aggravated at the menstrual period, her friends knew, by her peevish irritable temper, the dark areola round her eyes, and peculiar odour from her skin and excretions, when the attacks were coming on, so that she was prevented from going out at these times. The odour alluded to was indeed very peculiar; after touching her skin, as in feeling her pulse, for instance, one's hand smelt as if brass had been handled—the smell very much resembled the odour given out by metallic arsenic when sublimed. This patient's menstrual illnesses lasted for five or six days, and recurred with great regularity every fifteen or sixteen days, reckoning from the last day of one illness to the first of the succeeding; not unfrequently an interval would elapse without any attack coming on during that period. On the first or second day of the menstrual period an attack almost always came on; the following day two or three; the next five, seven, or as many as twelve; they then usually diminished in number and severity, disappearing on the last day of illness, or the first day succeeding it. She does not believe that for the last three years a single menstrual illness has passed over without several attacks accompanying it. I have seen this patient have a succession of eight attacks in the course of a night, without more than an hour interval between each. After such a series her speech became thick and almost inarticulate, and she had choreic twitchings of the limbs and muscles of the neck; but in the intervals her mind seemed little if at all affected, and in conversation I could not discover any serious defect of memory.

This patient was treated for a time with turpentine, in the hope, perhaps, of dislodging intestinal worms. She somewhat improved under this treatment, but no entozoa made their appearance.

On September 4th, 1860, she was ordered ten grains of bromide of potassium, three times a day, and cod-liver oil. Her menstrual illness came on on the 22nd, and lasted to the 27th. During this

time (on the third day of her illness) she had one attack. On the 5th of October, during the interval, she had a slight attack.

On October 15th her illness came on, and lasted till the 21st. She had an attack on the 15th and on the 20th; that is, two during the illness. On October 25th the dose of the bromide was doubled; the cod-liver oil was continued; she was advised to take much walking exercise, and as good diet as she could afford.

She continued taking twenty grains of the bromide, three times a day, for four months. She then, having no recurrence of the attacks, ceased taking the medicine, and I lost sight of her. In June last I saw her. To my surprise I found that she was married and pregnant. Up to the period of her pregnancy she assured me that she had been free from attacks. In May she had had several slight attacks, which she attributed to vexation. She has since been confined, and, although her labour was prolonged, she had no convulsions.

The following case is still under treatment; and, although by no means cured, yet it speaks strongly for the beneficial influence which the bromide of potassium exercises, even when it is not capable of arresting the attacks altogether:—

In December, 1862, I was consulted about a lady, thirty-two years of age, who had been epileptic from the time that menstruation had first become established—sixteen years before. Although not absolutely confined to the days of the periodic illness, her attacks, in general, took place either at the beginning or end of this time. The menstrual periods recurred with regularity, about every sixteen days, and lasted usually five days. She had, as a rule, twelve or fourteen epileptic attacks each month, the greater number of which took place immediately before or during the menstrual illness. According to a record which had been kept, attacks occurred as follows:—

1862.
Oct. 6th, 1 attack.
„ 7th, 4 attacks.
„ 8th, 2 attacks—menstrual illness came on.
„ 9th, 1 attack.
„ 10th, 1 attack.
„ 11th, 1 attack.
Oct. 12th, 1 attack.
„ 13th, 1 attack.
„ 30th, menstrual illness came on.
„ 31st, 1 attack.
Nov. 2nd, 1 attack.
„ 3rd, 1 attack.
„ 4th, 2 attacks.

Nov. 5th, 1 attack.
„ 6th, 1 attack.
„ 7th, 1 attack.
„ 19th, menstrual illness came on.
„ 1 attack (slight).
„ 24th, 1 attack.
„ 25th, 2 attacks.
„ 26th, 1 attack.
Nov. 28th, 1 attack.
Dec. 9th, menstrual illness came on.
„ 1 attack.
„ 10th, 2 attacks.
„ 11th, 3 attacks.
„ 12th, 2 attacks.
„ 13th, 1 attack.
„ 14th, 1 attack.

During the series of attacks, commencing December 9th, 1862, I first saw this patient; I saw her in one attack; she did not shriek, but the deep respiration was sufficient to give notice in the adjoining apartment, where I was. The fit lasted four minutes; loss of consciousness was complete; convulsion slight, and chiefly of left side; she neither frothed nor bit the tongue; was heavy and torpid for more than an hour after the attack, which I was informed was slight compared with others. In the attacks above mentioned she had lost consciousness completely in all save one, that occurring on November 19th.

Concerning this patient, I inquired whether among the remedies she had made use of had any seemed to be of real service, adding, that I believed I knew one which was likely to be beneficial. I was informed that one remedy only, from among many which had been tried, seemed to have controlled the malady. Indeed, said her mother, I, for a time, thought she had been cured by a prescription given by Sir Charles Locock three years ago. This alone seemed to be of use, and for nearly four months stopped the attacks altogether.

I asked to see the prescription, and found that it was bromide of potassium, in ten-grain doses, three times a-day.

December 18th, 1862.—I ordered an ounce of bromide of potassium in three ounces of distilled water; sixty minims to be taken three times a-day; a tea-spoonful of cod-liver oil three times a day, generous diet, and as much walking exercise as the patient could take without being absolutely fatigued.

The following has been the state of this patient during 1863:—

January, no attack.
February, 8 attacks—2 during menstrual illness.
March, 3 attacks.
April, 2 attacks.
May, 5 attacks.

June,	4 attacks—1 during menstrual illness.	September,	3 attacks.
July,	2 attacks.	October,	5 attacks—1 during menstrual illness.
August,	5 attacks—1 during menstrual illness.	November,	no attack.

In no single instance of all these attacks did the patient lose consciousness; in short they were reduced to *petit mal* fits of the most transient kind. In June I had further increased the dose of the bromide, ordering forty grains, three times a-day, but without the effect of completely stopping the attacks.

This patient's mind was, twelve months ago, showing, unmistakably, evidence of impairment; she was wanting in power of concentration; unable to control her acknowledged irritability of temper; and although, as is so usually the case, I was assured that her memory was quite good, yet she told me that she did not care for reading novels, because she could not recollect from day to day the names of the characters. As regards mind and memory a remarkable improvement has taken place.

These and other similar cases lead to the belief that we have in the bromide of potassium a remedy of considerable efficacy in epileptiform disease, when connected with uterine derangement. But in urging my professional brethren to use it in such cases, I would say that it certainly will not be found successful in every case, even of epilepsy connected distinctly with menstrual derangement. I have administered it, with the consent of my colleague, Dr. Banon, to a young woman in the Mountjoy Female Convict Prison, who had puerperal convulsions at the birth of her first child, and has since been epileptic, her attacks occurring for the most part at the menstrual period. In this case although I expected much from it, I cannot say that any substantial benefit has arisen from its use, yet it has been given perseveringly and in large doses.

With reference to the dose, from a not inconsiderable experience in the use of this medicine, I can state that it may be given with perfect confidence and safety, in much larger quantities than it is usually prescribed. I have given thirty or forty grains, and even more, three times a-day, for months without observing any bad results; and of this I am certain, that often such a dose as ten grains, three times a day is too small to develop any good result.

Although the independent testimony of several practitioners points to cases of epilepsy, with derangement of the uterine

functions, as those in which the bromide of potassium is most likely to be beneficial, yet there are others in which its effects are unquestionably good.

A lad, aged 18 years, was admitted to the Hospital of the Mountjoy Convict Prison, on April 12th, 1863. He was said to be epileptic, having three or four fits in the day. I myself never saw him in one; but at the time of my visit I found him dull, stupid, and slow of speech. I was struck by the peculiar odour exhaled from the skin of this patient; it was the same mixture of garlic and brass noticed in a former case; and it was the similarity in this respect alone that suggested to me the idea of giving him a medicine which had been so useful in the case alluded to. I commenced with ten-grain doses of the bromide three times a day, increased after one week to fifteen, and a fortnight to twenty grains. This boy apparently completely recovered, so much so that he was not recommended for removal to an associated prison, as is usual with confirmed epileptics; and indeed not having myself seen him in any attack, I was inclined to doubt the correctness of the diagnosis, and regard him as a malingerer. My friend, Dr. Mayne, however, who had one day accompanied me to visit a patient in hospital recognized the lad as having been formerly a patient under his care in the South Dublin Union Workhouse. On his assurance I gave up the notion of the boy being a malingerer, and I now think his case may fairly be regarded as benefited by the treatment.

I do not mean to say that the peculiar odour observed is a sufficient indication whereby one could venture to predict anything like successful treatment, yet the circumstance is worthy of observation; a peculiarly fetid odour from the skin and discharges is common in epileptic patients, as a forerunner or accompaniment of a series of attacks. One can fortell a coming series by the odour of the discharge from an issue or a burn; but the smell to which I have alluded seems to me something quite *sui generis*, and as I have already said is best compared to that of sublimed arsenic.

When epileptiform attacks are traceable to sexual excess in males, I have reason to state with some confidence that the bromide will be found useful; but as my observations on this subject are as yet incomplete, I must look forward to a further communication concerning it on a future occasion.

Art. IV.—*A Case of Missed Labour; with Observations.* By Alfred H. M'Clintock, M.D., F.R.C.S.; late Master of the Lying-in Hospital, &c., &c.

The term "missed labour"—first used by Dr. Oldham, I believe—has been applied to a class of cases of uterine pregnancy in which, through failure of parturient action, the fetus is retained for some indefinite period beyond the term of normal gestation. In every instance the fetus has apparently been dead at the time when labour should have taken place; and the waters of the ovum have generally been discharged about this epoch, or previously.

Cases of missed labour are among the very rarest in obstetric practice. I believe the annals of the Dublin Obstetrical Society fail to exhibit a single example; and I am aware of only one instance having been published by any Dublin obstetrician, viz., the late Dr. Montgomery. Indeed the records of obstetric medicine do not contain, altogether, more than about fifteen or twenty undoubted instances of this occurrence—some of the cases supposed to have been such, seeming, on close scrutiny, to have more resemblance to extra uterine fetation.

Under these circumstances I have thought that the history of a case of this kind, which lately fell under my observation, might prove interesting. At all events the subject itself has a considerable share of novelty; and I propose, therefore, in the first instance, to detail the case which occurred to myself, and to follow this up with a few general remarks on the ordinary course and treatment of cases of missed labour, which name, as being short and expressive, I shall continue to use throughout my paper.

In the early part of last Summer a respectable woman, from the country, consulted me, at my own house, on account of a vaginal discharge, with great impairment of her general health. She was a large flabby woman, of a cachectic appearance, and she had an expression of pain and distress deeply marked on her countenance. Being a person of few words, she briefly told me her age was forty-five; that she had had many children; that it was better than fourteen months since her last labour, and that the special ailment for which she sought my advice was a constant discharge from the vagina, very profuse in quantity, and most horribly offensive in its odour. Of this last quality I had become sensibly aware very soon

after she entered the room. This discharge had been going on, she said, for months, but was unattended by any hemorrhage, or any considerable pain. Nevertheless very great inroads had been made upon her constitution. She had been gradually losing flesh—her appetite was totally gone—her nights were bad, and her strength so greatly impaired that, to use her own phrase, "everything was a labour to her:" in fact, for a length of time, she had been wholly unequal to the discharge of any domestic duties. She further stated that the best provincial and metropolitan medical advice had been obtained for her, in accordance with which she had undergone a prolonged course of treatment, topical and general, but without the least benefit.

On examination of the abdomen I found, in the hypogastric region, a globular tumour, seemingly the uterus enlarged to the size it would have when four months gravid. On proceeding to touch the os uteri a gush of thin sanious matter, most abominably fetid, escaped from the vagina, causing me at once to suspect that she had cancer of the womb; which surmise seemed to be confirmed by the indurated and thickened state of the os uteri. Had no further investigation been made I would have pronounced the case to be one of malignant uterine disease.

Having previously ascertained that a tumour was perceptible in the uterine region, I thought it well to introduce the sound, for the purpose of determining more positively the seat of this tumour. Upon passing the instrument a short way within the uterus it came in contact with some hard substance, which, from the sensation communicated to the hand, was evidently of an osseous or calcareous nature. I next introduced my index finger into the os uteri, and, with some manœuvring, I got the ungual phalanx fairly within the uterine cavity, where it encountered several bony projections and surfaces.

This discovery was very unexpected, and it suggested the possibility of my having formed an erroneous or imperfect view of the case. At all events it led me to institute very careful inquiries about the patient's previous history, and especially as to the circumstances of her last labour; whereupon I elicited from her the following facts:—That she had given birth to twelve living children, then a dead child at full term, soon after which she conceived for the fourteenth and last time. On this occasion gestation proceeded naturally till about the seventh month, when symptoms occurred leading her to believe—and rightly so, as far as I can judge—that

the fetus died at this time. Nevertheless pregnancy went on to the end of the ninth month, when, exactly at the expected time, pains like those of commencing labour set in, and there was some discharge of blood and water. These symptoms of labour soon passed away, and pregnancy went on without any unusual circumstance for *five weeks* longer. She was then seized with severe pains, that she described as labour pains, which continued for two days without any cessation. A very experienced medical practitioner now saw her; she tells me that he found her "suffering under hemorrhage and great pain, and that, on examination, he discovered a bone in the vagina, which he removed, and which proved to be a fetal rib." Some other bones came away about this time, all of which, she affirmed, were entirely denuded of flesh.

From this epoch to the date of my first interview with her a period of *sixty-two* weeks had elapsed, and during the greater part of this time the offensive discharge from the vagina was going on, and some few fragments of bone had come away; but there was no hemorrhage, and she was not aware of the placenta having been expelled.

It is needless to say that this history at once revealed the true nature of the case, and satisfactorily explained its peculiar features.

The removal of the *débris* of the fetus from the interior of the womb seemed clearly the course to be pursued, although likely to be attended with much difficulty and risk.

As this would require several operations, I admitted the woman into Steevens' Hospital, where I was doing duty for Dr. Hardy. Upon trial I found that the extraction of the bones from the uterus was far more difficult than I had anticipated. This difficulty arose, in the first place, from the small size and rigid condition of the os uteri, which would only admit one finger; secondly, from the severe pain which these manipulations caused her; and, thirdly, from the want of a safe and proper instrument wherewith a secure hold could be taken of the fragments. After repeated trials and failures, the following course of procedure was adopted:—A large conical tent of prepared sponge was introduced into the os, over night. The next morning she was placed on the operating table, in the usual obstetric position. The tent was then withdrawn, and immediately a stream of tepid water, having a small quantity of solution of chloride of soda mixed with it, was injected directly into the uterus, so as to wash away all discharge. Even with this precaution the fetor was diabolical, and so tenacious that no amount of ablution

could remove it from the hands for the rest of the day. I may mention, too, that one of the days on which this operation was performed I attended a labour case, and this lady got a very smart attack of metritis.

Whilst the plug was being removed, and the vagina syringed, she was inhaling chloroform; and, when sufficiently under its influence, attempts were made to seize and extract some of the bones. The instrument we found most efficacious for this purpose was a long, curved forceps, very similar to that used for the removal of deep nasal polypi.

Between 1st May and 9th June she underwent seven operations, at each of which two or more fragments of bone were removed. A slight inflammatory attack took place after the seventh operation, though not in consequence of it, so that nothing farther was done till the 18th June. I got away a part of the lower maxilla on the 25th June, together with tabular pieces of bone. Again on the 2nd July I removed some more; and on this occasion Dr. Hardy was kind enough to lend his aid, and with much trouble he extracted two long bones, like a femur and humerus, which seemed to have been partially imbedded in the tissue of the uterus. Their removal caused an unusual amount of suffering, and she remained for a long time weak and prostrated after this operation. The pulse then rose, she began to complain of pain; rigors and vomiting came on, with copious dark expectoration, and profuse sweats, and she sank upon the 7th July. The symptoms were not such as attend upon ordinary peritonitis. In truth, they had more resemblance to those of acute pyemia, than to anything else. No *post-mortem* examination was obtained, which I deeply regret, as it would, most probably have thrown light on many questions of great interest, which must now remain undecided.

I preserved all the bits of bone, removed at each operation, and an examination of these shows the total number of recognizable pieces of bone to be over sixty. This includes portions of each of the bones of the head and face; of the ribs and spine, and of the pelvis and fingers; a femur, ulna, humerus, and tibia, and a number of lesser fragments, too small to be with certainty identified.

On some points the preceding history is not so full as might be desired, nevertheless, the facts related plainly indicate the course of events to have been as follows:—that the fetus perished at the seventh month, while at the end of the ninth month some threatenings of labour took place, and the waters came away; that after

the lapse of five weeks there seems to have been a partial renewal of expulsive efforts, causing, no doubt, a disproportionate amount of pain, owing to the inflamed and irritable state of the uterus. From this time up to her coming before me—a period of nearly fifteen months—the fetid discharge was going on, and her general health, as I have already mentioned, was becoming more and more deteriorated, her symptoms being such as evinced a state of extreme constitutional irritation, along with which was the unceasing discharge of putrid matter from the uterus, of so intolerably offensive a nature as to make her shun all society, even that of her family and friends, and to be an object of loathing to herself.

Dr. Montgomery's case, already adverted to, resembled the foregoing in some of its leading features. It was the lady's fourth pregnancy, and everything went on favourably up to the seventh month, when the fetus seems to have died. At the end of the ninth month the waters came away without labour pains; and shortly afterwards an abundant fetid discharge from the vagina came on, and continued for a length of time, attended at first with high fever, tympanitis, and abdominal pain. During the remainder of her life, which lasted about two years and-a-half, pieces of fetal bones continued to be expelled from time to time. About a fortnight after the rupture of the membranes the placenta and cord came away completely macerated, and all the interstitial matter so entirely removed as to present a most perfect ready-made preparation of the umbilical vessels.[a] Dr. Montgomery did not see this case for a week after the rupture of the membranes, and failing to discover any presenting part, he concluded there was no child in the uterus. But upon more strict examination, at a somewhat later period, he found a "heap of fetal bones" in utero.

The case narrated by Dr. Oldham is perhaps the fullest in its details of any of the kind yet published, and, therefore, well deserves an attentive perusal. The patient was forty-one years of age, and the fetus would seem to have been alive up to the end of the ninth month of pregnancy. There was no apparent reason why parturition should have been pretermitted. Every possible means were used by Dr. Oldham to stimulate the uterus and provoke its contraction, but without the least success. The ergot of rye, with subborate of soda, friction over the abdomen, galvanism, and artificial dilatation of the os, were among the means used for this

[a] This preparation is now in the Montgomery Museum, Queen's College, Galway, and is numbered 350 in the catalogue edited by Professor Doherty.

purpose. About three weeks after the parturition epoch had passed by the placenta and cord were removed from the os uteri in a loose and putrid state.

The first question which naturally suggests itself in regard to cases of the kind we are considering, has reference to the *cause* of the pretermission of labour. How comes it that the crowning act in the great function of reproduction is omitted, thus destroying the effect of all the wonderful series of antecedent processes and developments? Most assuredly it cannot be attributed to organic disease of the genital passages; for, with one exception, there was no evidence of the existence of such in any of the cases; and on the other hand the number of recorded instances are very great in which a uterus affected with organic disease has become gravid. In the exceptional case, to which allusion has just been made, the lower fourth of the uterus was the seat of carcinoma, causing great induration of all the tissues, and nearly complete obliteration of the cervical canal. Labour pains came on at the end of pregnancy, and continued, at intervals, for several days; no dilatation of the uterine orifice took place, however, and the pains gradually subsided, together with the constitutional excitement which had accompanied them. The patient died about seven months afterwards, and her case has been recorded by Dr. Rae Menzies, of Glasgow. Now, in this instance there was an obvious mechanical cause for parturition not taking place, viz., the morbid induration and insuperable rigidity of the uterine orifice. Strictly speaking, then, it can hardly be regarded as an example of *missed labour;* it was rather one of difficult labour, never getting beyond the first stage. Cases of this kind are extremely rare; but though differing in the way just pointed out from cases of missed labour properly so called, nevertheless, their ulterior history will probably be found to have a close correspondence with them, and under this aspect the two groups may be studied together.

It must be confessed that in the great majority of instances of missed labour no adequate cause can be shown why parturition did not take place; and till we are better furnished with facts we must forbear hazarding any explanation, as in the present state of our knowledge, such could only amount to a vague conjecture, or hypothetical assertion.

It remains, then, for future observers to discover the etiology of this remarkable lesion.

Not less remarkable is it, that the fœtus and secundines should be

retained after the setting up of putrefaction, without destroying the patient. In some instances, no doubt, very serious symptoms did arise, and in a few life was eventually forfeited, though not as an immediate effect of this intra-uterine putrefaction. It is true, cases are of common occurrence in which a dead fetus is carried for a length of time in the uterus without any ill effects whatever. But in all these cases the membranes of the ovum are *unbroken*, and consequently, the entrance of atmospheric air is impossible; so that although a decomposition of the fetus be going forward, still it is not of a putrefactive kind. And here I must draw attention to the very curious and remarkable fact, that in some cases of missed labour the fetus was retained for a period of many months or years without undergoing any decided decomposition. In Dr. Cheston's case this period extended to fifty-two years, and yet the fetus was perfectly preserved, though considerably altered in appearance. "The body of the child," writes Dr. Cheston, "was very firm and compact, as if condensed by great pressure: hence, it seemed completely deprived of its fluids, and formed, therefore, a contrast to the juicy state of a body recently deprived of life; of blood, either in a fluid or coagulated state, or of that colour which results from this fluid being contained in the vessels of a part, there was not the slightest appearance."

In Dr. Caldwell's case, and in Dr. Menzies', the same absence of any signs of decomposition was also observed. In the last two cases, and possibly also in Dr. Cheston's, the membranes did not rupture; and to this circumstance, in a great measure, we may attribute the non-production of putrefaction.

Judging from the details of such recorded instances as I have been able to come at, the progress of these cases are much alike in their general features, though differing somewhat in their details. Very severe constitutional disturbance, with some symptoms of abdominal inflammation has occasionally supervened immediately upon the disappearance of the attempts at labour. Such was observed in the example I have related; and very markedly in the cases of Montgomery, of Oldham, and of Dr. Menzies; and, I doubt not, there are many unpublished cases where the women have sunk at this stage. The writings of the older obstetricians contain numerous examples of the retention of the fetal head after the body had been torn away; and in the greater number of such histories—the exceptions being exceedingly rare—the event has been represented as speedily fatal (Davis).

After the period has passed by at which parturition should have taken place, the uterine tumour undergoes a diminution of volume, and this diminution will be greater or less according to circumstances. Where the membranes have been ruptured, and a putrid discharge established, the reduction in the bulk of the uterus is very considerable; so that at the end of three or four months it is not much bigger than an orange. Even in cases where the fetus is not dissolved by putrefaction the uterine tumour becomes sensibly smaller owing, in part, to the absorption of the liquor amnii, and in part, also, to the strong compression of the fetus.

If the membranes have been ruptured, as usually happens, a copious and horribly offensive putrid discharge soon sets in, and continues for very many months, or even years; in fact, until all the soft parts of the fetus have decomposed and melted away. Mixed with this fluid discharge there often is a large quantity of fetid gas.

In the course of this long stage of the case pelvic or uterine inflammation may arise; and more or less constitutional disturbance and impairment of health must be expected, in consequence of the persistent local irritation; and also, we may fairly suppose, in consequence of septic contamination of the system. Small fragments of bone come away from time to time in the discharge, but these bear no proportion to what remain behind. To expel this mass of bones is scarcely in the power of the uterus; and is certainly not to be reckoned on. It would seem, however, that nature may, on rare occasions, effect the expulsion of these bones. The following case is mentioned in the *Ephem. Germ.* for 1675. The patient had reached the full term of pregnancy; and, in delivering the child by the feet, the accoucheur left the head behind in the uterus. The patient, nevertheless, survived. For four years she took medicines which, it was hoped, would bring away the head; but nothing came except some small scraps of bone with bits of putrid flesh, and an abundant quantity of fetid purulent discharge. For the succeeding three years she enjoyed tolerably good health, and expelled the retained head of her child in pieces corresponding in size to the several bones of the fetal skull. This process was effected by the action of the uterus alone, and without being accompanied by any symptom of inconvenience. She was then left, it is added, in perfect health and full aptitude for future conception (Davis). Although citing this history I fully admit its extremely exceptional character. It may, therefore, still be asked what becomes of the

osseous remains of the fetus which have been sepulchred in the womb? There are, at least, two events, either of which experience shows, may happen. The mass of bones may become conglomerated together and encysted; the uterus tolerates this tumour, and all further symptoms of its presence cease. In some instances where this state of things had continued for a great length of time, the cyst has seemed to possess an osseous structure, but whether true bone or not I cannot say. Closely analogous to this was the case published by Dr. John Caldwell of Londonderry, in 1806. The uterus had become partially ossified, and identified with the fetal remains which would seem to have caused her no annoyance of any kind for upwards of twenty years. The woman's age was sixty at the time of her death, which event was, in a great measure, ascribable to violent and ineffectual efforts to dislodge the contents of the uterus.

A much more striking example of this ossific isolation was recorded by Dr. Cheston, in the *Medico-Chirurgical Transactions* for 1814. He designates it:—"The history of a child retained in the mother fifty-two years after the usual period of utero gestation." The fetus, which had come to its full time, was found enclosed in an osseous case, which had taken the place of the fundus of the uterus. I should, perhaps, mention, that in these two cases the entire fetus, and not the bones only, was retained in utero and became enclosed within an osseous cyst.

Nebelius is quoted by Morgagni as giving the "relation of a mature fetus which was endeavouring to procure its own discharge at the proper time; but, after the efflux of the waters gave the more certain signs of its death, as in the following weeks, a fetid and bloody ichor, with little pieces of membranes and fleshy fibres, flowed out from the pudenda: and finally, this fetus was reduced to a skeleton; so that the crackling of the bones was heard as often as ever the woman bent her body backwards or forwards; yet, she being afflicted with no fever, that is mentioned, nor any other considerable inconvenience, had even carried those bones in the uterus for three years together, without any loss of health" (Alexander's Translation).

Burdach cites a case, on the authority of Voigtel, where the fetal remains were carried in the womb for forty years; so that we may presume they caused but little annoyance to the patient.

Instead, however, of the uterus tolerating the presence of the fetal remains, it may endeavour to get rid of them by ulceration,

and thus the life of the patient may be compromised. Of this we have a very good example in the case recorded by Dr. Oldham, which terminated fatally three months from the time when labour should have taken place. "On dividing the central line of the abdomen a cyst was opened which contained a number of bones closely set together, with a quantity of thick dark putrilage. This cyst, which accurately covered the mass of bones, was formed in front by the lower part of the abdominal walls and the bladder; it was covered in above by the small intestines and omentum which had adhered together, but so feebly that they were readily separated; whilst the back part of the cyst was formed by the posterior wall of the cavity of the uterus." This preparation is contained in the Museum of Guy's Hospital.

A case is related by Dr. Vondorfer, in Schmidt's *Jahrbucher*, which shows that the danger of purulent infection of the system may continue for a very long time. The patient was forty-nine years old when the labour came on, and, after continuing some days, subsided. After the lapse of eleven years the woman died with the symptoms of purulent infection. At the *post mortem* examination the remains of a putrid fetus, with its bones, were found in utero.

The lengthened period the women have lived in most of the published cases of missed labour is truly surprising. At the same time I cannot help thinking that but for this circumstance many of these cases would never have been put on record; so that we cannot take them as examples of the ordinary course of events in serotine gestation.

We find that, dating from the time when labour should have occurred, Dr. Oldham's patient lived three months; Dr. Menzies', eight months; Dr. M'Clintock's, sixteen months; a case quoted by Dr. Dewees, seventeen months; Dr. Montgomery's, two years and a half; Nebelius', over three years; Dr. Schulz's, nine years; Vondorfer's, eleven years; Dr. Caldwell's, over twenty years; Voigtel's, forty years; and Dr. Cheston's, fifty-two years.

After this hasty glance at the probable course and termination of cases of missed labour, let me make a few observations upon the treatment. It is with extreme diffidence I say anything on this part of my subject; nor do I venture to do more than offer some suggestions as to the general principles which should be kept in view in the management of a case of the kind.

The main question of treatment obviously has reference to the propriety of attempts at extracting the debris of the fetus from the

uterine cavity. I have no hesitation in laying it down as a general precept, subject of course to limitations, that this mass of fetal corruption should, when practicable, be exhumed from its living sepulchre.

The sooner this attempt is made the better chance there will be of succeeding; as with the lapse of time the uterus contracts, and the bones get more massed and conglomerated together, or they may become embedded in the substance of the organ, as was undoubtedly the case in the patient whose history I have detailed. The ill success which attended the efforts of Dr. Oldham, and still more so of myself, to get away the fetal remains may be urged as an objection against what I have just said; but in my mind these cases do not materially affect the principle laid down—they only show the difficulty and danger in its application.

In the attempts to seize and draw away the bones the os uteri should be open enough to admit two fingers. If this be not the case its dilatation by means of tents of prepared sponge, or of sea tangle (as recommended by Dr. Sloan), will have to be a preliminary step to each separate operation.

If, with so limited an amount of experience as a solitary case supplies, I might venture upon giving any advice, I would say that it was better to be satisfied with bringing away a little at a time, even though this should entail many operations, than to use persevering and bolder attempts in the hope of accomplishing our purpose by a fewer number of operations.

This principle, you will observe, is essentially the same as that laid down by the highest authorities, with regard to the operation of lithotrity. Had I strictly adhered to it in the case detailed, the result might have been different. At the tenth operation we certainly used more manipulation, and for a longer time than on any previous occasion. I was tempted so to do by the woman's own entreaties to hasten her cure, and also by her exemption previously from any bad consequences. It is of importance to mention, as bearing on the question now before us, that in the case reported by Dan. Schulz (*Comment. de Reb. in Scient. Nat. et Med. Gest.*, Vol. XXI.), it appears that at the end of ten years from the time when labour was missed, the patient underwent a series of operations, by which no less than one hundred and twenty pieces of bone were removed from the uterine cavity, and with the most successful result.

Before concluding, I may be permitted to mention some of the

circumstances under which I would feel inclined to abstain from any attempts at removing the fetal remains from the interior of the uterus. In the first place, then, the presence of acute symptoms, whether of hysteritis or peritonitis, should certainly render any operative measures inexpedient or hurtful. Here we should wait, I think, till these symptoms had subsided, or had become very much abated.

Again, if there be reason to suppose that any ulcerative process had been set up in the uterine parietes, we should be very cautious about meddling with the contents of the uterus, lest, in so doing, laceration of the organ might take place, which accident would probably result in the patient's speedy dissolution.

Lastly, if the case have been of long standing, and the absence of symptoms justify our belief that the uterus has become reconciled to the presence of the mass, there may then be no necessity for actual interference. As we have already seen, such a state of things may come about—the fetal remains being retained for years, and causing very little inconvenience.

Art. V.—*Iridectomy and Division of the Ciliary Muscle Compared.*

By H. R. De Ricci.

Miss L., aged about forty, came under my care in the early part of the present year for what she thought to be neuralgia of the eye and face. She was tall; of a strong, healthy constitution, and florid aspect. She had been suffering from severe pains in eye and face, but principally in her eye, for about six weeks previous to consulting me; and had been under the care of a professional mesmerizer during a month, at least. Far from receiving any benefit, however, from the manipulations of the disciple of Mesmer, she became decidedly worse. The pain in the eye, and in the frontal and temporal regions increased in violence, and gave her no rest, either day or night. She lost her appetite; she lost her sleep; but, fortunately for herself, she at the same time lost her confidence in mesmerism also. Having applied to me for advice, and finding that she was suffering from great pain in her left eye, I at once directed my attention to it, when I easily discovered that it was no case of neuralgia I had to deal with. She was totally blind of that eye, having lost the sight of it some eight years previously,

apparently from an attack of glaucoma. On her first visit to me it was in a state of extreme congestion and lacrymation; and the intra-ocular pain was of the severest kind. I at once told her that her case was not one of neuralgia, but of inflammation of the internal structures of the eye; and I proceeded to treat it according to the usual method. At first I seemed to obtain some slight advantage; the pains somewhat diminished; and on my second visit I found the patient very much pleased at having obtained some sleep on the previous night; but the relief she experienced was, unfortunately, but of short duration. The intra-ocular pain returned with all its former violence; and in less than a week she was suffering as much as when she first applied to me.

The case was evidently a serious one; and as ophthalmic surgery was not a branch that I specially practised, I proposed to this lady that I should consult with Dr. Hildige on her case. We met the following day; and, after a careful examination, he pronounced it to be a case of sub-acute glaucomatic inflammation; and mentioned to me, privately, that iridectomy would offer the only chance of relieving her present symptoms, and, at the same time, save from destruction the other eye, which was already beginning to suffer sympathetically. We ordered some cooling anodyne lotion; and on the following day, on her again calling on me to tell me that the eye-water had done her no good, and that she had passed another night of agony, I communicated to her Dr. Hildige's opinion, backing it with my recommendation to submit to the operation without delay, which was accordingly performed on the following day—a small portion of the upper part of the iris being excised by Dr. Hildige. This patient was extremely agitated during the performance of the operation; and it required all the skill and dexterity of the operator to bring it to a satisfactory termination. Notwithstanding her restlessness and her excitement, the result was most satisfactory. The pain in the eyeball, which, for so many weeks previously had never left her for a moment, had considerably abated by the following morning; and twenty-four hours after the iridectomy this lady expressed to me that she was free from all the old pain in the eye, and it was well worth undergoing all the anxiety and pain of the operation to obtain the amount of comfort she was then enjoying. This patient continued very satisfactorily for a fortnight, when intra-ocular hemorrhage set in, which was arrested, after some hours, by the application of iced lotions—the hemorrhage, however, caused no return of the

pain. The blood was eventually absorbed, and everything has gone on well up to this date, three months after the operation; and the patient can read, and write, and otherwise occupy herself without the slightest pain or inconvenience.

The following case was never under my care; but from its similarity to the foregoing, and in consequence of it having been successfully treated by section of the ciliary muscle, I am induced to place it here on record in juxta-position with the previous case.

M. N., aged about fifty, a labourer of not very robust aspect, ill fed, and occasionally addicted to intemperance, was admitted into the National Eye and Ear Hospital, with sub-acute glaucoma of the left eye. The disease was of about three weeks' duration when he applied for admission into hospital, and during those three weeks he had been treated in the usual routine way, with leeches, calomel, opium, blisters, &c., &c., &c., without, however, deriving any beneficial result, or obtaining any palliation of the paroxysms of pain to which he was subject. On his admission, the condition of the eye was as follows:—The eyelids were very much swollen and inflamed, and the ball of the eye was hard, small, and sunken within the orbit, so much so, indeed, that it was a matter of considerable difficulty the making an accurate examination of it. The pupil was almost motionless, vision very much impaired, everything he looked at appearing to him as through a cloud, though he could still count the fingers at the distance of two feet. He suffered from great pain, though not constantly; but occasionally the paroxysms were extremely severe. Dr. Hildige having determined on performing iridectomy in this man's case, he requested my assistance at the operation, which, however, we found it impossible to perform. The man was extremely excited, and totally without control over himself; while the eye was so deep in the orbit, and the eyelids so swollen, that by no manipulation was it possible to bring the cornea sufficiently into view to be able, with safety, to penetrate into the anterior chamber and excise a portion of the iris. The administration of chloroform seemed hazardous, owing to the constitutional peculiarities of the man. Such being the state of things, I ventured to suggest to Dr. Hildige a trial of section of the ciliary muscle, which he at once easily performed by plunging a Wenzel's knife through the sclerotica at a point about the one-twentieth of an inch distant from its junction with the cornea. Nothing could exceed the facility and rapidity

with which the operation was completed; but what is still more satisfactory to relate is the (to me at least) almost unexpected result. Within a few hours after the operation all pain in the eyeball had ceased; on the second day the patient could open his eye perfectly well; and at the end of a fortnight he discontinued his attendance at hospital, being perfectly free from pain, and, with the exception of a slight haziness of the lens, having an exceedingly useful eye.

The question then naturally arises—can the simple operation of division of the ciliary muscle and ligament be substituted for the more serious one of iridectomy? Mr. Hancock, who, I believe, was the first to propose this operation, answers "Yes." But I cannot help thinking that there are many cases in which it would be found inadequate; for instance, in disease of the choroid and iris with exclusion of the pupil, in which iridectomy has proved of such signal value, it is plain that division of the ciliary muscle could be of no avail; but in many other forms of disease, for the cure of which iridectomy has been proposed, I think we might, with advantage, substitute the simpler operation, the performance of which would not prevent the subsequent performance of iridectomy, should it fail to yield a satisfactory result.

Art. VI.—*On Amputation at the Ankle-joint, according to the Method of Professor Syme.* By Glascott R. Symes, one of the Surgeons of Dr. Steevens' Hospital, Dublin.

There is, probably, no surgical operation concerning the performance of which so much difference of opinion exists as with regard to Syme's amputation at the ankle joint. It was first performed by Mr. Syme in 1842, and by many other surgeons since then. One would imagine that after the test of twenty-one years it would be accepted or rejected by the surgical profession; but this is not the case. At the present day, even, some are found who strenuously advocate its merits; and some who as energetically oppose it. In the cases of excision of the knee, and ovariotomy, I can remember the time that they were considered unjustifiable operations; now, they are regarded as legitimate proceedings, owing to the successful and startling results of the operations.

Not so with Syme's amputation at the ankle-joint. It is not received by the profession generally as a good operation; and I myself have opposed it; but a consideration of the following cases changed my opinion:—

Case I.—Cornelius Hogan, aged eighteen, admitted into hospital on the 12th September, 1861. He was a highly scrofulous-looking subject, a native of Bolton, near Manchester. About five years before admission he was attacked with deep-seated pain in the left foot. From that time numerous abscesses made their appearance in different parts of the foot; in some instances fistulous openings remained; but many ultimately closed up. He applied for relief to the surgeons of the town, who recommended that he should have the leg amputated below the knee; but to this his relatives would not consent. Having heard of a previous successful case of partial amputation at this hospital, he was induced to come over in expectation of a similar result.

The foot was large and swollen, having that peculiar *clubbed* appearance so characteristic of disease of the tarsus—the tumefaction was principally confined to the dorsum; but the arch of the foot was obliterated, owing to the swelling which, also, to some extent, engaged the sole.

There were four openings on the upper and outer aspects—a probe passed into any of them came almost immediately into contact with diseased bone. There were also the cicatrices of previous openings apparent in many parts of the foot—one of these was situated about two inches above the internal malleolus. The tibia was considerably enlarged; the girth of the leg above the malleoli was nearly double that of the sound limb. The discharge from the sinuses was very profuse; the patient was pale and much emaciated.

An attempt was made to save the foot on the supposition that the change of climate might do something for him; but without effect. It came to that point that he should either have the part removed, or he should die. On proposing to him amputation of the leg, he would not hear of it; but he readily assented to any measure short of this.

The case seemed a very unpromising one for amputation at the ankle-joint—the tibia and fibula were much thickened, and the existence of the cicatrix before-mentioned above the internal malleolus, showed, likewise, that the bones of the leg were diseased.

On the other hand, his chest was sound; and if the operation proved unsuccessful—owing to the disease advancing in the leg—he might not be in a worse position for amputation at the "seat of election." However, almost against my own conviction, I performed the operation on the 3rd November, 1861. About a dozen vessels required ligature—the heel flap was unusually thick, from the long-continued disease. On turning down the foot, after opening the joint, the os calcis snapped across, owing to its being very much softened, it resembled, in appearance, lump sugar moistened. This was the first evidence we had that this bone was diseased, as none of the sinuses led towards it. The posterior flap was held *in situ* with silver wire sutures. On the third day he was feverish; his stomach and bowels were in a very irritable state; the stump was much swollen; there was œdema round the knee, and he had an enlarged and painfully inflamed gland in the upper part of the thigh. All the dressings and sutures were at once removed; the posterior flap was retained by a single broad strap of adhesive plaster, and water dressing was applied. As there were two cases of erysipelas in the ward he was removed to one more healthy. From this he gradually improved until December 1, when it had all healed up, with the exception of a single opening in the line of the incision. He now rapidly recovered his health and flesh. He commenced to walk about *on* the stump, which did not give him any uneasiness. He had an attack of erysipelas in the stump before he left hospital; some small abscesses formed, which were opened. He subsequently left hospital in January, 1862. After some time he returned to Dublin to show himself to me, when he was in good general health; he walked well on the stump; but it was very much larger than the sound leg. Since he left Dublin I have not heard of him; I presume, had the disease returned in the leg, he would have made his appearance again at the hospital. Thus this case ended in a manner which I was hardly led to expect from its unpromising appearance at the outset.

Case II.—John Sullivan, aged nineteen, a native of Halifax, Yorkshire, has had caries of the bones of the tarsus and metatarsus of the left foot, for two years; amputation of the leg above the ankle was proposed, but neither the patient nor his friends would allow it. Under these circumstances, he came to Dublin, and was admitted into Steevens' Hospital on 6th April, 1863. The state of the foot was as follows:—As usual in such cases, it was

clubbed, presenting a considerable enlargement on the dorsum, with a loss of the concavity of the arch—in fact, the centre of the sole of the foot was the part that first touched the ground; there were four openings, all of which communicated with diseased bone; one at the digital extremity of the metatarsus, connected with both the first and second metatarsal bones; the second opening was on the dorsum, in the situation of the instep; the third was on the outer side; and the fourth was on the under surface, communicating with diseased astragalus; this was situated in the line of the incision which I subsequently made. The os calcis was *apparently* healthy—so much so, that at first I contemplated the modification of the operation proposed by Pirogoff. In deference to other considerations, I gave up this idea before the operation. The tibia and tibula were apparently healthy, not even enlarged. As far as the limb was concerned nothing could be more favourable for this excellent operation; but when we came to examine his general state of health, his left lung was found to be the seat of tubercular deposit. He was much emaciated, troubled with cough and copious mucous expectoration. Such was his state on admission. He was under treatment for some time, when all the usual remedies were tried to improve the condition of the foot, but to no purpose; he daily grew worse; hectic set in; he was greatly reduced by the night sweats and want of sleep; pulse never below 100.

I subjoin the report of his state of health when examined by Dr. Burke, physician to the hospital, according to our usual custom before operation in such cases:—

"The result of my examination of Sullivan's lungs is the following:—The exposed thorax showed great emaciation; under the left clavicle there was considerable flattening. A deep inspiration produced simple elevation without the expansion movement which occurred on the right side. In the left infra-clavicular region there was considerable dulness on percussion; the stethoscopic indications were crepitation, increased vocal resonance—inspiratory murmur interrupted. It was quite clear that the only chance was the performance of the operation which cut off one drain upon the constitution."

As it was apparent such a state of things could not last long, and as there was no evidence of a cavity in the lung, it was determined to give him the chance of lengthening his life by the

removal of the principal source of irritation; he would not hear of the limb being removed; and, as he was a most intelligent young man, I explained to him the nature of the operation which I subsequently performed. To this he readily assented.

On 9th May I operated in the usual way, as proposed by Professor Syme, taking a thin slice off the tibia; in dissecting out the os calcis it was cut into with the knife, being quite soft and friable, the cut surface of the tibia presented a congested appearance. The flap was brought together by five points of hare-lip suture, the ligatures being crossed from one needle to the next. In the case of flap amputation, I think they far surpass wire ligatures. Every bone in the foot was found to be infiltrated with pus and tubercular matter. From the date of the operation he gradually improved; there was no tendency to bagging of the flap, which did not show any inclination to slough; he slept well—cough considerably less—expectoration greatly decreased; and after the third night no night sweats; eat heartily, and was supplied with a liberal dietary and twelve ounces wine daily.

The case proceeded most favourably; after the first fortnight he was up every day on crutches; in the fourth week he was able to rest his whole weight on the stump; one small abscess collected in the heel, which was opened, and then rapidly healed up ; his cough ceased entirely, as likewise the expectoration ; he got quite fat; and he left hospital early in August, quite recovered, with the exception of the lung, over which dulness still existed. This young man has returned to his business, that of clerk, in Halifax. I had a letter from him lately, in which he states he is able to walk well on the stump, and is otherwise in the enjoyment of the best health.

Both of the cases now related were in many respects such as a surgeon would not select as favourable cases for operation. In the first, the disease had extended to the bones of the leg, and yet one may say that the operation was successful. Though I would not be surprised to hear that the disease had returned in the leg, yet it has given him a considerable period of immunity from suffering. In the second case, the condition of the chest was highly unfavourable to the successful issue of any capital operation, yet the result was most satisfactory, not only as regards the limb and his general health, but it even ameliorated the state of the lung itself.

These are the only cases which have occurred in my practice. However, a regard for truth obliges me to state that successful

results have been obtained by other Dublin surgeons, especially as the editor of the new edition of *Cooper's Surgical Dictionary* (a book which will be the great standard book of reference), quotes a statement made by Mr. Butcher, in Vol. XII. of this Journal (August 1851), condemnatory of the operation which, from the weight that so justly attaches to all the teachings of this eminent surgeon, has, no doubt, had the effect of adding much to the prejudice against it existing in the minds of some operators.

Mr. Wilmot has performed this operation three times with perfect success.

Mr. John Hamilton has operated in like manner in one case. The patient's name is George Toohey; his age is twenty-six. The operation was performed six years ago, for disease of the tarsus, of three years' standing. I saw this patient some days since; he uses no stick, and can run with great rapidity; in fact, for some time after the operation this individual was in the habit of exciting the commiseration of the benevolent by dancing on the stump. In this case the stump has lost the usual rounded appearance which is generally observed after the operation; it is flattened on the under surface, and resembles the shape of the heel of a healthy limb.

Mr. O'Ferrall has likewise had a successful case.

Two successful cases occurred in the hospital of one of the Dublin workhouses; the operator has informed me that both were attended with "marked success."

I am cognizant of two other cases in which the operation, or a modification of it, was performed; although the limb was ultimately amputated below the knee; yet I think it proper to record them, as they bear out the teaching of Professor Syme.

Surgeon S. A. Cusack and Surgeon Little, in the North of Ireland, both performed the modification of the operation as proposed by Pirogoff; in both cases the disease returned in the portion of *os calcis* left behind, and necessitated the removal of the limb. Mr. S. A. Cusack removed the leg, in his case, when the patient was much reduced by the formation of many abscesses. In Mr. Little's case, the leg was removed by Mr. Walsh, in the Adelaide Hospital. The caries was confined to a very small portion of bone; he was not much reduced, but he was of such an irritable disposition that he insisted on the removal of the limb. These two last cases bear out what Mr. Syme says, that the *os calcis* is a bone predisposed to caries, and no portion of it should be

left behind; in both of my cases this bone was so soft that it could be easily cut with a knife; although no sinus existed in the neighbourhood, I rest assured that had I left a portion behind, I should have, at a later period, been obliged to open up the stump and remove the offending substance.

I am sure that the above enumeration does not include *all* the successful cases which have taken place in Dublin; however, they are all which have come to my knowledge, whether successful or unsuccessful.

If one were to compare the stump in this operation with the stump after amputation below the knee, the advantage would be in favour of the former. Although the flat surface in front of the tibia, when the knee is bent, appears to be an admirable spot whereon to rest the whole weight of the body; yet, I venture to say, it is an unnatural stump, contrasted with the natural pad of the heel, which has to bear the weight of the body after amputation at the ankle-joint—it has to bear no more than heretofore. Many patients cannot use the artificial leg for a long time; and even then cannot bear its use for any great length of time together. This operation is probably more suited to the removal of disease than injured parts.

It is unfair not to give a patient—especially one of the lower orders—the chance of this operation, when, if it fail, he is not in a worse position for amputation below the knee. If it be the rule in the upper extremity to save every inch—the smallest portion being of some use—why should not the same rule extend to the lower extremity?

An eminent authority on excision of the knee-joint, in London, is, I am aware, unfriendly to this operation; one of his reasons being that, in many cases, amputation below the knee has to be performed subsequently. In speaking of his own favourite operation he says that, should a case not be progressing to the satisfaction of the operator, he would not only be justified, but it would be his duty, to open up the wound again and remove, if necessary, another portion of either the tibia or femur, before resorting to amputation of the thigh. I have myself seen him acting in accordance with those views, and with the best results. He should be consistent in allowing the same line of reasoning for amputation at the ankle-joint. This is the very operation where such a course can be pursued with comparative impunity; the flap might be dissected off again and again, and portions of diseased bone removed with a minimum

amount of danger attending such interference, owing to the distance of the point from the trunk.

Should cases present themselves to me where the lower end of the tibia was engaged, I would adopt the course pointed out by the above mode of reasoning, and give the patient the chance of an operation, which is as safe and simple in its performance as it is gratifying to all parties in its results.

Art. VII.—*A Description of a Bed intended to be Used in Protracted Fever Cases.* By T. W. Belcher, M.A., M.D., T.C.D.; B.M., M.A., Oxon.; Licentiate of the College of Physicians, and sometime Physician to the Cork Fever Hospital.

The accompanying woodcut will serve to explain the plan of a bed which I venture to submit to the notice of the profession.

It is intended primarily for protracted fever cases, but will, of course, be available for many other medical, and for some surgical cases also.

In the Cork Fever Hospital I had a bed constructed somewhat on the plan recommended by Dr. Corrigan, in his "Lectures on Fever"—the difference being, that while Dr. Corrigan's apparatus consisted of a box frame overlaid by girthweb, that to which I refer consisted of a wooden parallelogram, across which the girthweb was laid, and the whole placed on an ordinary hospital iron bedstead, in lieu of the usual sacken bottom.

It answered the desired purpose tolerably well, and gave great relief to sufferers from bed sores; but frequent difficulty was experienced in making the straps fast or loose, by buckles, while it was in use.

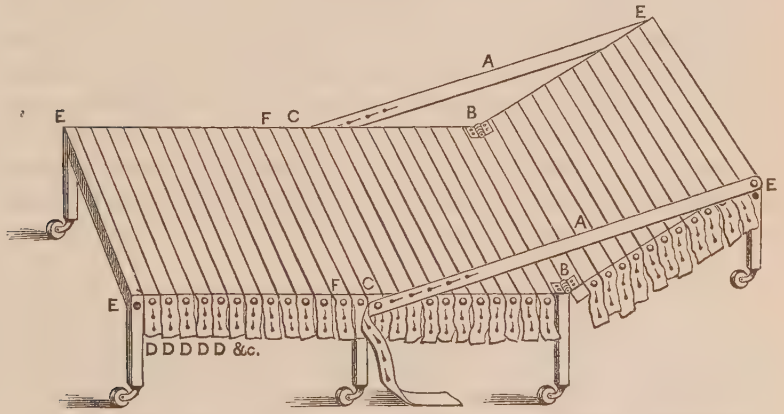
For some years I have had in my possession a peculiar kind of bed, called "Browne's Patent *Porte-lit*." This was in great demand for officers during the Crimean war, as it was very light; could be readily taken to pieces, and put up again; could be packed in a very small valise, and strapped behind a saddle; while it answered the purposes of a bed, a lounger, or a chair, according to the mode of its adjustment.

It occurred to me that if the principle of Dr. Corrigan's bed were applied to the *porte-lit*, and the latter made suitable, in size and comfort, for a sick person, a very useful article might be obtained, not only for hospitals but for tedious fever cases in private families.

The dimensions of the proposed bed are:—Length, six feet six

inches; breadth, two feet six inches; height from the ground, one foot six inches. The expense of construction could be but very small, and it could be made by any carpenter or amateur mechanic.

The annexed diagram shows it as it may be used for a case of bed sores, the uppermost third forming an angle of about 135° with the other two-thirds. This, or any amount or variety of inclination, may be obtained by shortening or lengthening the leather straps, A A, and so working the hinges, B B. The action of the hinges, F F, is reversed, to enable the lowermost and middle thirds to form any angle, in the opposite direction to B B, that may be desired to ease the lower extremities; in which latter case the patient would assume the posture usual with persons in the dressing-rooms of Turkish bath establishments. These hinges, being under the frame, cannot be shown in the drawing.



The leather straps A A, are attached at C C, and, like those of girthweb, D D D D D, &c., are fastened at one end on brass buttons, like the window-straps of a first class railway carriage, while they are fixed at the other extremities.

At E E E E are four holes for the insertion of the attaching portions of head and foot-boards, if such should be deemed desirable, while the bed is in a horizontal position.

It is not necessary that there should be any mattrass, for the surface forms an even plane; blankets folded from above and below, leaving a gap for the sore, as recommended by Dr. Corrigan, will answer every purpose. If, however, a mattrass should be required, it ought to be made in three parts, each capable of being joined temporarily to the others, so that one part might be withdrawn while two were kept in use.

Any one or more of the girthweb straps may be loosened to admit of the use of the bed-pan, which can be readily introduced at any part of the bed; and, of course, the strap or straps immediately under the sore parts should be loosened, while all the rest are kept perfectly tight.

In cases of typhoid fever, where it is of the greatest importance to enable the patient to use the bed-pan with as little motion of the body as possible, this bed will be found useful.

The modification of Dr. Corrigan's bed, used in the Cork Fever Hospital, I have known to produce the most happy results in inducing sleep and giving relief from pain; while my personal experience of the *porte-lit* is, that it is a most luxurious resting-place after a hard day's work, particularly after a long day on horseback. The bed which I propose can be easily moved from one apartment to another, without causing any disturbance to the patient, who may remain on it throughout; while its capability of elevation at the head, combined with its portability, would give the patient most of the advantages of being out of bed without any of the risk incurred by rising prematurely.

Over the box frame bed of Dr. Corrigan it appears to me to have the decided advantages of free access to air and light underneath, and, therefore, of consequent cleanliness.

Art. VIII.—*On the Treatment of Anthrax by Pressure.* By Maurice H. Collis, F.R.C.S.I., Surgeon to the Meath Hospital, &c.

In an admirable essay on anthrax by the late Mr. Ledwich,[a] there occurs a digest of various opinions upon the pathology of anthrax. This entire paper is replete with evidences of profound thought and careful reading, adding much to our regret for the loss of one, who could write so well, and think so deeply, at the very outset of his career as a practical surgeon. Had he been spared but a few years to observe disease extensively in the wards and dead-room of his hospital, there is, in this paper alone, evidence that the results to the literature of surgery would have been most important.

I take the liberty of here reproducing the digest upon the pathology of anthrax:—

[a] Dublin Quarterly Journal, November, 1856.

"*Pathology.*—There is much discrepancy of opinion in relation to the precise seat of the disease at its commencement. Rokitanski believes the affection has its origin in the deep layer of the corium, involving the areolar tissue in its meshes, and subsequently extending to the subcutaneous structure. Brodie remarks that 'the disease may commence in the elongations of the cellular membrane, but there is something more than this; I do not believe a carbuncle to be a mere local affection, it is a constitutional disease, and is always preceded by something wrong in the general health. It seems to me as if there was something like a poison in the circulation, which is thrown out of it into the cellular membrane in cases of carbuncle, so that we might be justified in classing this disease with small-pox and the other exanthemata.' Dupuytren believes that the dermoid prolongations of the areolar tissue, which become strangulated, are the peculiar localities of the disease, accounting thus for the cribriform suppuration of the skin, and subsequent sloughing; whilst Hunter insists that its source is always tegumentary, and spreads to the cellular tissue.

"Professor Miller, whose statements must always receive the greatest attention, locates the disease primarily in the areolar tissue, the skin merely suffering a secondary affection; and M. Nélaton teaches that an anthrax is 'rather subcutaneous than cutaneous.'

"I have not the least hesitation in affirming that the primary hardening is subcutaneous, spreading, as the disease advances, from the deep to the superficial surface of the skin, which ultimately participates in the gangrenous affection; and this seems susceptible of proof from the following observations:—First, if the anthrax is situated in any locality where the skin is naturally lax, as in the eyelid, and may be pinched up from the superficial face of the tumour, it feels soft, elastic, and evidently unaffected. Secondly, on making an incision, and carefully examining the cut surface, it will present the various gradations of the disease, becoming less and less intense, as the superficial surface is approached. Thirdly, suppuration in the skin, indicated by cribriform ulceration, does not supervene until after the areolar tissue has been perfectly gangrenous; and the opposite course would obviously ensue if the the disease was tegumentary. Fourthly, when an anthrax is opened in its advanced stage, the subcutaneous extent of the sloughing is always greater than the external diseased aspect of the skin would lead the surgeon to anticipate."

There is no doubt Sir Benjamin Brodie is right in classing anthrax as one of those affections which are external manifestations of noxious material accumulated in the body; but the description of its local seat, as given in any of the above extracts, does not satisfy me. Were it only in the cellular tissue and prolongation of the deeper layers of skin, its phenomena could not be satisfactorily explained. Its seat is deeper than any of these writers claim for it. This any one can satisfy himself upon by dissection of a single anthrax; or, if such an opportunity be denied him, he has only to inspect the cavity of a large one from which the core has been wholly expelled, and to observe what parts are laid bare, as well as to note the deeply depressed cicatrix which marks the site when all is healed. Having done so, let him examine carefully the early stages of anthrax, on the looser skin of the sides, abdomen, eyelid, or any other part where the fascia is not closely bound to the skin by numerous strings and short bands of the corion, and he will find it in all such cases, not only subcutaneous, but deeper still, lying beneath the lax areolar tissue, and in and beneath the fascia.

In a short article on anthrax, in the *Dublin Quarterly Journal* for August, 1859, I laid this down, and I now venture to repeat it at greater length, and with a more complete explanation, because I conceive that right pathology must precede scientific treatment.

Anthrax is essentially an inflammation of dense fascia, in which the superficial areolar tissue is implicated, as in furuncle, and also the deep, as in phlegmonoid erysipelas. There is along with, and resulting from this threefold inflammation, a copious exudation of lymph, which agglutinates the inflamed parts into an almost homogeneous yellowish-grey mass, destroying the vessels, and of necessity stopping the circulation; hence a large and rapidly increasing core results. So peculiar is this core that Nélaton classes it among false membranes, similar to those which form on the surface of serous membranes. There is some show of truth in this notion of Nélaton's, but it is only part of the truth, and not the main part either. The mode of extension of anthrax much resembles that of phlegmonous erysipelas—sub-fascial exudation goes on, cutting off the vascular supply to fascia, and, at the same time, exudation goes on superficial to the fascia, cutting off the vascular supply to the skin. This double exudation produces two sets of physical signs; a broad elevation, equal in extent to that

of the deep exudation, with livid or dusky red hue of skin, and hard œdema, extending somewhat beyond that limit, points to deep sub-fascial inflammation; while the numerous small furuncular openings, which, running into one another, discharge small quantities of healthy pus, long before the core is loosened, are evidences of more superficial inflammation. The brighter red of the skin round these openings is another sign of their being akin to simple follicular abscesses; for though not so bright as in healthy phlegmon the colour is less dull than it is in the outlying parts of the tumour. This superficial inflammation is of less extent than the deep, for the simple reason that its products get vent more quickly. The skin only has to be perforated, whereas in the other case, deep fascia and skin must both give way, and the fascia only gives way by becoming a dead slough, and by being cast off by a process of ulceration along its edges. This is a slow process, during which exudation advances, and the diseased action extends its limits.

Dublin surgeons, as a rule, have been in the habit of treating anthrax by the crucial incision of Abernethy. Some advise that the incision should reach from sound skin to sound skin. Even Mr. Ledwich, following the stern surgery of Tagart, and undeterred by the fatal cases he himself has quoted, gave in his adhesion to this practice. I have long been satisfied that this length of wound was a needless increase of risk and suffering to the patient, and that the mere extent of a crucial incision was of little consequence in comparison with its depth.

If not deep enough to allow free vent to the dead core and matter, an incision is worse than useless—it is positively mischievous, and causes the disease to spread. To be deep enough it must penetrate the core, and tap the inflammatory exudation and purulent depôt which lie beneath it, and which would not otherwise find a vent until the core had separated. When making the crucial incision it is easy to know if we have gone deep enough for our purpose. Should there be still much vitality in the integument, which we have cross-cut, the wound will gape widely, and the point of each angular flap will curl up considerably. Even in advanced cases, where the skin is much undermined and thinner, and where it has not sufficient elasticity to curl up or retract, we shall be able to know if we have gone deep enough by lifting up the angles of the flaps in a forceps and feeling if they are well loosened from the parts underneath. If they do not yield at once, and freely, we must cut deeper until we reach the subjacent muscle.

The crucial incision then, if adopted, must be deep to be of use in checking the spread of the disease and facilitating the repair of the affected part.

But it may be well to inquire if an incision is always, nay, if it is often required. It is surely in accordance with the merciful progress of modern surgery that we should, at least, pause now and then in any practice which has become routine, and ask if it be never right to depart from it.

I shall not here enter upon the treatment of anthrax by the more painful plan of the potential cautery, which is wholly inapplicable in the early stages of the disease, and which cannot, at any stage, be supposed to check its spread. I would rather venture to inquire if any painful application or treatment is required, and whether we may not, in the great majority of cases, bring about a favourable issue without giving pain, and with greater rapidity than either knife or caustic can effect. Under the advice of Mr. Paget, whose calm judgment must carry weight with all intelligent surgeons, and encouraged by his example, I have not, for two years and a-half, used either knife or caustic potash in anthrax; and with the results I have every reason to be satisfied. I do not say that I shall never cut an anthrax or use caustic potash to detach the sloughs—but I shall simply give examples of various forms and degrees of the disease as treated by me without either; and, I think the results authorize me to conclude that the cases in which it is necessary to resort to either are rare indeed.

The first case in which I tried the effect of a milder plan of treatment was one which most people will allow to have been a legitimate case for it. It was a large anthrax between the scapulæ, occurring in an old and feeble man. It had been left to nature, and had spread until it reached the size of a small plate; along the centre was a brownish slough four and a-half inches long and three and a-half wide. This slough was still firmly adherent, the line of demarcation having just commenced to form. Under this cutaneous slough, and raising it high above the level of the healthy skin, lay a boggy mass of dead fascia, arcolar tissue, and pus, which, as yet, had no vent; but it was evident that the fascial slough was sufficiently detached to allow the subjacent pus freely to come forward beneath the skin. Hence, the anthrax had ceased to spread; yet all round the slough was the livid and hard margin, still the seat of great pain, and quite capable of carrying further, upon the least provocation, a gangrenous inflammation.

I immediately applied a large plaster of emplastrum saponis cum opio, spread on wash-leather, with a crucial incision in the centre of the plaster corresponding in situation with what would have been, under ordinary circumstances, the crucial incision in the anthrax. The next day the swelling round the slough had sensibly lessened, and had become of a healthy red; the pain had completely disappeared; some discharge appeared at the margins of the slough; this increased from day to day, and the slough separated much as it would under any other circumstances. The plaster was renewed from day to day, and the cure was completed in less than a month, which, for so large an anthrax in a feeble old man, was as much as could be expected.

This case showed that anthrax will sometimes stop spreading without the surgeon's help, even in old broken down persons. It also shows that support to the capillaries will relieve the pain of anthrax, as is ably pointed out by Mr. O'Ferrall, in the fifth volume *Dublin Hospital Gazette.* In that paper Mr. O'Ferrall speaks highly of the treatment of anthrax by pressure, but, as it appears to me, without venturing to carry out his principles to their full and legitimate conclusion; he does not seem to contemplate the use of pressure alone apart from the knife.[a] His remarks, however, on the results of pressure after incision, in a case of his own, are of much importance. In that instance the anthrax had been freely divided by the crucial incision; yet, it had steadily spread, unchecked either by the general use of wine and bark, or by the knife, followed by a free use of nitrate of silver; yet, no sooner was support afforded by the firm application of soap plaster, spread on thin leather, than the disease began to diminish, and all suffering ceased. Mr O'Ferrall's words are:—

"The effect of pressure was immediate and remarkable. The morbid sensibility which caused the patient to shrink from manipulation was at once diminished by well regulated pressure. The following day the other phenomena of the disease—hardness, swelling, and dusky redness, the results of capillary congestion with infiltration, occupying an area of one inch and a-half—had entirely disappeared. Nothing could be more evident than the utility, in this case, of the treatment of anthrax by pressure."

[a] Since the above was in type, I am informed that Mr. O'Ferrall is now in the habit of using pressure without incision.—M. H. C.

These remarks of Mr. O'Ferrall apply not only to this first case of mine, but to all the rest in a more striking manner.

Shortly afterwards I got a case in which the anthrax was seated on the abdominal wall, near the umbilicus. It was in an early stage—still hard and livid, with a vesicle or two, the sure premonitors of suppuration—not more than an inch or so in width, if the eye alone were to be depended on; when handled, the deep-seated infiltration was easily felt to be more extensive; it could be traced fully two inches, in every direction, from the central vesicles. The empl. saponis cum opio was applied on this without any incision. The next day he told me that the burning pain was gone; the vesicles had become pustular; the deep dusky redness was less, and of a more healthy hue. Next day a drop or two of pus lay beneath the plaster; I then made a small cross-cut in the centre of the plaster; a fresh piece was applied daily, and kept constantly on until the core separated, in less than a week, with the assistance of an occasional pull at the time of daily dressing. Once the core separated, and was withdrawn, the healing process rapidly advanced, and the patient left the hospital, well, on the eighteenth day. I may mention that this man was threatened with a second anthrax; the place was immediately covered up with a thick layer of empl. sap. cum opio, and in three days all appearance of inflammation and swelling disappeared.

The third case which I shall bring forward occurred in the practice of Mr. P. C. Smyly, who afforded me an opportunity of seeing it. A young gentleman, of strumous habit, the only survivor of a large family which had been cut off by phthisis, was suddenly attacked with the severe burning pain which ushers in the peculiar inflammation of anthrax. The pain was felt over the tuber ischii. An anthrax of considerable size formed rapidly, and caused much distress, owing to its situation near the anus. The tumefaction was greater than usual, owing to the prominence of the bone underneath it. Mr. Smyly was most anxious to effect a cure without the knife, owing to the delicate constitution of his patient. He applied strong pressure by means of straps of adhesive plaster interlaced round the anthrax, covering it all up, except the very central point. Great relief was at once experienced, and in three days the entire slough was discharged through a small central opening produced by two or three of the small pustules running together. Within

ten days from the first application of the strapping the patient was able to be about, the cavity having almost cicatrized.

This case was more remarkable owing to Mr. Smyly having another of almost identical character in hospital at the same time, in which he made the crucial incision. This case, at the end of three weeks, still presented a large amount of raw surface. The two cases differed only in the age and strength of the patients; the locality of the anthrax was the same. The appearances at first were absolutely alike as two cases could be. The patient, who was treated by pressure, was a delicate young man of twenty-five, while the other was a strong man of thirty-five, yet the former, treated by pressure, was able to be about in a week, while the latter, who had been cut in the orthodox manner, was more than three weeks confined to bed.

The last case I shall bring forward is if possible more conclusive than any of the preceding. After trying pressure by sedative plasters, in a number of patients, confined to bed, and supplied with good diet and other comforts, I determined upon attempting to treat the disease without such aids in order to test the plan of treatment.

I selected a man of blanched aspect, prematurely old-looking, and with all the marks of poverty about him. This man had two anthraces—one on the point of the right scapula, of large size, and a smaller one in the axilla, near the scapula. The large one was about four inches by three in diameter, as regards the central boggy portion, with a livid margin, a couple of inches wide, all round. The small one, more prominent, was also more advanced, although later to appear. The core was beginning to separate in it, and it had ceased to spread. The larger one was still spreading—it was the seat of deep and burning pain, and had not commenced to open spontaneously. I strapped both with spiral strapping, covering the entire of the larger, and all but the centre of the small one. Not having soap plaster with opium, at hand, I used common adhesive plaster. In twenty-four hours the improvement was marked. The pain had lost its burning character, the swelling had decreased, the lividity of the centre part was changed for a healthier red, and the edge of the outer margin was paler. The improvement continued from day to day; a small central opening gave vent to a good deal of healthy pus; and in ten days not only was the core out completely, but the cavity from which it came was mostly healed up; and in three weeks he was well. I gave him a little bark during this

period. He had no means to enable him to get good food or stimulants, and continued as an extern all the time.

From these cases, to which many others might be added, it is plainly evident that anthrax may be treated sometimes without incision. It is, I think, clear enough that we may pause over each case, and consider if it be necessary or advisable to resort to the knife. For my own part I am satisfied that, as a rule, anthrax need not be cut. I do not wish to be dogmatical, or to lay down an absolute rule that the crucial incision is to be entirely abandoned, but I am entitled to ask that it should not be held to be a *sine qua non*.

The question may be asked, how pressure acts. Mr O'Ferrall has well answered this. He states that the capillaries in anthrax are in danger of losing their vitality under the severity of a gangrenous form of inflammation, and that the support of even pressure enables them to resist the destruction which menaces them. This is, no doubt, the explanation. In practice we find pressure answer, let the explanation be what it may.

I have observed that as soon as the parts get support, the extension of sub-fascial exudation ceases. This is the natural result of giving support round the margin of the inflamed part. The efforts of the matter to get vent are then directed towards the surface, and the necessary sloughing and ulcerative processes are more rapidly performed.

I have also observed that the core is more extruded or pushed out than where incisions have been made. In the latter case we have often to pull at the core, and to dress the wounds with terebinthinates and other stimulating dressings before the sloughs separate. This has never been necessary where pressure was used. The core came out generally in one mass, and a healing process seemed to have been going on behind it, so that the subsequent closing up of the cavity was rapidly effected. I may add that I have frequently used the soap plaster with opium, in common furuncle, and in acne rosacea, with the best effects. It checks the suppuration of furuncle if applied in time, and always relieves the pain. In acne it seems to resolve the hard exudation, and to promote a discharge of a drop or two of healthy matter. This has been specially the case in the very chronic form of acne, which would otherwise remain for weeks itchy and sore, neither disappearing nor suppurating.

Pressure is not to supersede appropriate internal treatment, of which, if I have said little in this paper, it is not to be supposed I am neglectful.

Art. IX.—*The Forceps in Craniotomy.* By Thomas Powell, L.R.C.S.I., Enniskean, Co. Cork; formerly Resident Surgeon Anglesey Lying-in Hospital, Dublin; late Assistant Surgeon H. M. Bombay Army; and formerly Lecturer on Practical Anatomy in the Original (now Ledwich) School of Medicine, Peter-street, Dublin.

Craniotomy is an operation whose reckless performance was long a stain upon the medical profession of this country. It is at once both cruel and clumsy, and can only by a stretch of courtesy be called a scientific proceeding. I have long been of this opinion, and I have found the forceps such an efficient and innoxious instrument that I have discarded the use of the perforater, except in those cases in which I have tried the forceps and found the assistance given by it insufficient to bring about delivery. When compelled to perforate, I formerly made traction with the crotchet; of all the instruments commonly used to promote delivery after perforation, I believed it the best; and, following in the way of my predecessors, I continued to use it, till the occurrence of the following case happily showed me a more facile mode of proceeding; since then with me the perforater has waited on the forceps in cases where the disproportion between the head and pelvis is great, to step in and remove the difficulty by reducing the bulk of the head, when by grasping it with the forceps it may be delivered with the same ease as if the parts were originally well proportioned.

On the 20th of January, 1861, at 8 p.m., I visited Mrs. B., aged twenty-three, primipara. I was told she had been in labour from the morning of the previous day; that the pains had been very strong, that they had now ceased, and that the patient was very weak. When at the bed-side, I found her quite exhausted, the skin was cool and clammy, she complained of thirst; the pulse was 128, small and weak. On examination I found the os uteri dilated, the fetal bones overlapping, and the head firmly impacted in the inlet of the pelvis. The soft parts of the mother were hot and tender; she had passed no urine since morning, and expressed no anxiety to do so. I passed the catheter; a few drops only came away. The case was evidently one requiring instrumental aid, and delay was likely to be injurious. It was now necessary to determine what form the assistance should take. I am usually influenced in my choice of instruments by the event of the fetus

being living or dead at the moment of operation. If the child is dead, and I think delivery would be hastened by reducing the bulk of the head, I never hesitate to do so; but if there is no reason to think the child is dead, I try to avoid perforating, for I feel it is my duty to give the child a chance of its life. In this case I failed to find the fetal heart, but I had no reason to think the child was dead; I accordingly applied the forceps. The introduction of the blades, as is usual, caused a renewal of the uterine contractions; but these contractions, with all the assistance I deemed it safe to give them, were insufficient to move the head from its position; having continued the traction for as many as five pains without any result, I considered I would not be justified in continuing my efforts, and that I had no alternative but to perforate. Withdrawing the forceps, I proceeded to open the child's head in the usual manner, and then to fix and make traction with the crotchet. This instrument I had always found inefficient, but I never experienced its total inadequacy to cope with a difficult case till now. Piece after piece of bone came away, fixed point after fixed point yielded, and still the head remained unmoved. I continued my efforts till every process of bone in which the crotchet could be fixed had crumbled before it, and the crotchet lay powerless in my hand. At this moment it occurred to me to try the forceps. I applied it (this time, owing to the reduced size of the child's head, with much greater ease than on the first occasion). No sooner did I make traction than I found the head descending, and in less than three minutes, to my very great satisfaction, the head was delivered and the child was born in due course. I found the mother was then in a very weak state; the continued unavailing efforts with the crotchet had a most depressing, mental as well as bodily, effect. I administered wine and aromatic spirits of ammonia, and before I left her re-action had set in; from this out her recovery was satisfactory, and unmarked by any unusual event.

July 20th, 1862.—It is now eighteen months since I last saw Mrs. B. She left this neighbourhood a few months after her confinement, and I heard nothing of her till to-day, when a relative came to ask my advice under the following unhappy circumstances:—

She said, about a month ago, Mrs. B. was taken in labour of her second child; that her state varied from day to day; and that, at the end of five days from the first occasion of her pains, she was delivered, with instruments, of a dead child, by a neighbouring practitioner. She remarked nothing unusual till the third day

after delivery, when she found she could not retain her urine. This state had continued up to the present time, and she was very much troubled by it.

It would appear the head became impacted, as in the first labour; but not being promptly relieved, the inevitable sloughing and vesico-vaginal fistula followed.

The records of this case show, in the first place, the advantages to the mother of timely delivery, recently advocated by Dr. Sinclair, in this Journal;[a] in the next place, and pre-eminently, they show the difficulty at times experienced in effecting the passage of the fetal head through a contracted pelvis.

In using the forceps to make traction after perforation we obtain the following advantages:—(1) The unpleasant failure and delay at times experienced with the crotchet is avoided; (2) all danger to the mother by the slipping of the crotchet, or of wounds by the pieces of bone is avoided; (3) the mangling of the child's head is reduced to a minimum, and the appearance of the child (a desirable matter at times) is preserved; (4) we can make traction in the most efficient manner; (5) the whole operation, including perforation and extraction, may be performed in from three to five minutes —a rapidity unattainable with the crotchet. The following case illustrates this practice:—

On September 27, 1862, Mrs. D., aged forty, was taken in labour of her second child. She had been a widow eighteen years. Her first child was born when she was but twenty years old. On September 28, at 8 a.m., labour had ceased, the os uteri was still to be felt between the head and the pubes, and the soft parts were rigid and unyielding. She said she thought the child was dead—the emphysema of the scalp and the fetor of the discharges showed it was so. Owing to the rigid and unrelaxed state of the soft parts I thought delivery would be facilitated by reducing the bulk of the child's head. I accordingly perforated, and then applied and made traction with the forceps. The operation occupied about five minutes; and the woman recovered without a bad symptom.

In two other cases I have extracted with the forceps, after perforating, with equally good success.

It may be thought the injury the cranial bones receive from the perforator may so affect their resistance that they will not afford a hold to the forceps, or that the forceps might slip off the

[a] On the Timely Use of the Obstetric Forceps. Vol. xxxii., p. 60.

collapsed head. This leads me to say a word on the shape of the forceps to be used.

I consider Churchill's forceps the most proper to use after perforation, inasmuch as the parts offering resistance to it when traction is made are uninjured by the perforator, being supported by the bones forming the base of the skull. The advantages of this shape are —(1) the widest part of the forceps, when in use, corresponds to the widest part of the child's head; (2) the forceps passes much more fully around and above the head, thus preventing the possibility of slipping; (3) the blades, in the act of introduction, have a tendency to impinge upon, almost to hitch in, the fetal structures, thus conducing very much to the safety of the maternal structures, and to safety in the use of the instrument itself. Its disadvantage is, that it is more difficult of application than the old form, particularly when the head is high up.

It may, perhaps, be objected to this practice, that it is impossible or very difficult to apply the forceps in cases requiring perforation. When speaking of the practice of the Dublin Lying-in Hospital during Dr. Shekleton's mastership, Dr. Sinclair[a] says:—"We never perforated without first trying to extract the fetus with the forceps." Taking into account the large practice of the hospital, we may accept this as proof of its being possible to introduce the forceps in craniotomy cases.

A great variety of "craniotomy forceps" has been devised to effect delivery when the crotchet has failed; they appear to be equally ingenious and inefficient. An instrument invented by Dr. Ziegler, of Edinburgh, and figured in Dr. Churchill's work, has two blades, armed with teeth, to be applied outside the cranium, They somewhat resemble the blades of the ordinary forceps, but are much less curved, a third blade is supplied that converts it into a craniotomy forceps of the ordinary form. The fault of this and of the other craniotomy forceps, is that they attempt to hold the flat bones of the cranium, whose cohesion and power of resistance is destroyed by the perforater.

[a] Loc cit.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Jaundice: Its Pathology and Treatment; with the Application of Physiological Chemistry to the Detection and Treatment of Diseases of the Liver and Pancreas. By GEORGE HARLEY, M.D. London, 1863 : Walton and Maberly. pp. 136.

IN the work before us the author limits himself, for the most part, to an exposition of his own views, his chief object being to point out how valuable an adjunct modern physiological and chemical knowledge is in the diagnosis and treatment of hepatic and pancreatic disease. He does not dwell at any length upon the old theories of the mechanism of jaundice, but briefly, and with great clearness, sets before the reader his own notions, and the ground he has had for forming them. We may observe, on the threshold, that, in our opinion, the work is remarkably well executed, and is one which is really deserving of being consulted by clinical observers. The pathology of jaundice is viewed by the light of modern chemistry and physiology, and yet the confessedly difficult subjects of the chemistry and physiology of the bile are so dealt with as to be made easy of application at the bedside.

We are well aware that there are some grave objections to Dr. Harley's theory—he himself is aware of these objections; nevertheless we do not hesitate to say that the author's observations and cases fully justify his hopes as to the adoption of the principles on which his theory is based.

When contemplating the phenomena of jaundice, the clinical physician must bear in mind that among the numerous constituents of bile, there are three ingredients more important than the rest:—

1st. Biliverdine, a nitrogenized colouring matter, containing iron, and, probably, a direct derivative from the colouring matter of the blood.

2nd. Cholesterine, a crystalline, fatty matter, not peculiar to bile,

and, although eliminated by the liver, existing preformed in the blood.[a]

3rd. The bile acids—glycocholic and taurocholic acids—materials never found in the blood or tissues, save those of the liver, and not discovered as existing in the blood after extirpation of the liver.

Of these, the two first being formed, or, at least, existing, in the blood, are separated from it by the liver, as urea is by the kidney; the bile acids, on the other hand, are formed *by* the liver, as well as got rid of through this channel.

If, from any cause, the liver simply ceases altogether to do its work, the first two, not being eliminated, accumulate in the blood, the bile acids are not formed at all; the jaundice occurring under such circumstances is *jaundice from suppression.*

If, however, the bile having been duly formed by a liver still capable of exercising its function, is taken up again by the blood, as it were, re-entering the circulation from without; then, not only the biliverdine and cholesterine, but the bile acids are found in the circulating fluid, and we have *jaundice from re-absorption.*

This view of the mechanism by which jaundice is produced does not materially differ from that which has found in Dr. Budd so able an exponent. He also looks upon jaundice as a symptom of hepatic derangement, produced in two ways—by obstruction to the

[a] A very interesting memoir relating to this substance has appeared in the American Journal of Medical Science, from the pen of Dr. Austin Flint, jun., Professor of Physiology to the Bellevue Hospital Medical College. It is entitled "Experimental Researches on a New Excretory Function of the Liver, consisting in the Separation of Cholesterine from the Blood, and its Expulsion from the Economy, under the form of Stercorine (Seroline of Boudet)."

The following are the more important results at which Dr. Flint has arrived:—

1st. Cholesterine exists in the bile, the blood, nervous tissue, meconium; but, normally, does not exist in the feces. The quantity of cholesterine furnished by the venous blood of the arm is from five to eight times greater than has been generally supposed.

2nd. Cholesterine is formed in great part, if not entirely, in the nervous tissue, in which it exists in great abundance. It is separated from it by the blood, and constitutes one of the most important excrementitial products of the economy. Its formation is continuous, and its existence in the blood and nervous tissue is constant.

3rd. Cholesterine is separated from the blood by the liver. It is an element constantly present in bile, and is poured forth into the digestive tube. It is separated by the liver, not produced by it; and, if this separation is disturbed, it accumulates in the system.

4th. Stercorine is the form under which cholesterine is ejected from the body. Ordinary normal feces contain no cholesterine; but they contain stercorine (formerly known as seroline), which is a product resulting from the transformation of the cholesterine of the bile during the digestive process.

flow of bile, and consequent re-absorption, and by suppression; but Dr. Budd's ideas with regard to the origin and precise function of bile do not agree with those of Dr. Harley.

Frerichs[a] conceives that jaundice may result from any of the following conditions:—

1st. Obstruction to the escape of bile.

2nd. Diminished circulation of blood in the liver, and consequent abnormal diffusion.

3rd. Obstructed metamorphosis; or, a diminished consumption of bile in the blood.

He lays aside the theory of jaundice as a result of suppressed secretion, and introduces the new elements of abnormal diffusion and diminished consumption.

By abnormal diffusion we must confess that we do not very clearly understand what is precisely meant; while diminished consumption implies the supposition that the bile once formed is re-absorbed to perform another function in the economy before elimination; and that having been re-absorbed, and being but partially consumed, the residue gives rise to jaundice. We cannot see that this latter theory rests upon any well-ascertained physiological facts. If such a cause for jaundice exists, it is, as Frerichs himself observes, a jaundice altogether independent of the liver, which may be doing its work perfectly all the while.

Dr. Harley points out some interesting facts as regards the physiological uses of the bile in aiding digestion. Lenz and Marcet have shown how the neutral fats of our food are, during digestion, transformed into fatty acids; and Bidder and Schmidt illustrated, by experiments on dogs, the important part played by bile in their absorption. As soon as the acid chyme, leaving the stomach, comes in contact with the alkaline bile a white flocculent emulsion is formed, supposed by some writers to be due to the precipitation of albuminose. This, however, Dr. Harley shows not to be the case. He conceives it to be owing to the bile acting on the fatty acids; that, in fact, the bile does not act either on the amylaceous or albuminous portions of our food; but that its special action is on the fatty acids resulting from the transformation which the neutral fats have undergone during digestion in the stomach. Dr. Harley also gives some experiments to show that diosmatic action, as regards fatty matters, is assisted by the bile.

[a] Frerichs' Clinical Treatises on Diseases of the Liver. Sydenham Society's Translation. Vol. i., p. 93.

The pathology of jaundice, according to our author, may be embodied under two heads—jaundice from suppression of the biliary functions, and jaundice from re-absorption, of secreted, but retained, bile.

Each of these forms are treated of under the following heads:—

(*a*). Jaundice from suppression arising from (1) enervation, (2) disordered hepatic circulation, (3) absence of secreting substance.

(*b*). Jaundice from re-absorption, arising from (1) congenital deficiency of the bile ducts, (2) accidental obstruction of the bile ducts.

In the varieties of jaundice arising from suppression the skin becomes yellow and the urine high-coloured, simply because a colouring matter formed in the blood is not got rid of by the liver, and by its accumulation stains all the tissues. Jaundice from enervation and from hepatic congestion—with which forms every practitioner is familiar—are typical examples of the form of disease in question. The bile acids not existing preformed in the blood do not, in these cases, appear in the urine or other excretions. The natural outlet for the biliverdine and cholesterine of the blood being closed from the inactive state of liver, these materials accumulate in the circulating fluid; one of them, probably the cholesterine, by its accumulation exercises the sedative action on the circulation which produces the slow pulse of jaundice. But neither being actively poisonous give rise to serious toxemic symptoms. The case is different when the bile acids enter the circulation. These it is which give rise to the fatal symptoms of bile poisoning;[a] and this is what occurs, to a greater or less extent, in cases of jaundice arising from re-absorption of secreted, but retained, bile. The obstruction giving rise to this may be of three kinds:—

Firstly, a congenital deficiency of the bile ducts.

Secondly, accidental obstruction in the course of the ducts, as from gall-stones, hydatids, or the entrance of foreign bodies into the intestines.

Thirdly, from closure of the outlet of the common bile-duct—as, for example, from the pressure of the pregnant uterus, or distended transverse colon, or from organic disease of the pancreas or neighbouring organs. In jaundice arising from obstruction we find the pipe-clay stools, the yellow skin, the high-coloured urine, just as in

[a] Six grains of glycocholate of soda killed a dog, into whose femoral vein it was injected, in the course of two hours.

jaundice, from suppression; because, although not primarily retained in the blood, as in the latter form, the colouring matter of the bile has entered the circulation again by absorption. With it the bile acids have been also re-absorbed; and, being eliminated through channels not natural to them, are, according to Dr. Harley, to be detected in the urine, thus constituting the great diagnostic feature by which these forms of jaundice are capable of being distinguished one from the other. So important do Dr. Harley's observations on the diagnostic value of the bile acids in the urine appear to us that we transcribe them in full:—

"All acquainted with the recent literature of jaundice know how hard a battle is being fought, between two sets of observers in Germany, regarding the presence of bile acids in urine. One class, with Frerichs and Städler at their head, believe that the biliary acids are decomposed in the blood, and are consequently never to be detected in the urine. The other class, headed by Kühne, state as positively that they have detected these substances in the urine. Indeed, Kühne states that by adopting Hoppe's method,[a] he never fails to detect the presence of the biliary acids in the urine of patients labouring under icterus, as well as in the urine of dogs with the bile-duct ligatured. When first studying this question, I was very much perplexed by these contradictory statements, for neither the judgment nor the power of observation of either of the authorities could for a moment be called in question; and on experimenting for myself, so unsatisfactory were the results obtained, that I almost threw the question aside in despair. On one occasion, however, I at length met with such unmistakable evidence of the presence of bile-acids in the urine, that I could no longer doubt the fact of their existence, and was forced to search for an explanation of the previous contradictory results. Fortunately, it was not very long before a solution to the difficulty was obtained, and, what was of still greater importance, led to the observation that the contradictory results arose from a circumstance which might be turned to account, as a means of differential diagnosis. The discovery was, that in certain cases of jaundice not a trace of the biliary acids is to be detected in the urine, although the bile pigment is present in abundance: while in certain other cases both biliary acids and bile pigment occur in notable quantity. What, then, is the cause of this difference? Simply this. In jaundice from suppression the liver does not secrete

[a] Professor Hoppe tests for bile-acids in the following manner:—The urine is boiled with an excess of milk of lime for about half an hour, and filtered to free it from the precipitate thus formed. The filtrate is evaporated to dryness, decomposed with hydrochloric acid, washed with water, and then extracted with alcohol. The alcoholic extract contains the bile-acids, which are recognized by Pettenkofer's test.

bile; consequently no bile-acids being formed, none can enter the circulation, and they are therefore not to be detected in the urine. In jaundice from obstruction, on the other hand, bile is secreted, and absorbed into the blood; and the bile-acids not being all transformed in the circulation, as Frerichs supposed, are eliminated by the kidneys, and appear in the urine, where they can be detected by Hoppe's method, or even, with proper precautions, by simply adding sulphuric acid and sugar. Here however, some skill and experience are requisite, in order not to confound the colour produced by the action of the re-agents on other substances with a fine purple produced by the biliary acids. As the majority of cases of jaundice result from suppression of the hepatic function, and as many of the cases of obstruction ultimately merge into the former, it is easily understood how the existence of the biliary acids in the urine has been so frequently denied. I have myself seen, in a case of obstruction of the common duct, the biliary acids slowly and gradually diminished in the urine, until they at length almost entirely disappeared as the case approached a fatal termination. Here the disappearance of the biliary acids went on step for step with the impairment of the secreting powers of the liver, in consequence of the pressure exercised on its parenchyma by the retained bile.

"The readiest mode by which the biliary acids may be detected is the following:—To a couple of drachms of the suspected urine add a small fragment of loaf-sugar, and afterwards pour slowly into the test-tube about a drachm of strong sulphuric acid. This should be done so as not to mix the two liquids. If biliary acids be present, there will be observed at the line of contact of the acid and urine—after standing for a few minutes—a deep purple hue. This result may be taken as a sure indication that the jaundice is due to obstructed bile-ducts. On the other hand, the absence of this phenomenon, and the occurrence of merely a *brown* instead of a *purple* tint, although, in the earlier stages of jaundice, equally indicative of suppression, is of course, for the reasons already given, no indication of the cause of the suppression. That must be gleaned from other circumstances.

"It is seen that I have taken no notice of Frerichs' theory regarding the bile-acids being changed into bile pigment. I have done so advisedly, feeling as I do, that when that observer investigates the subject more fully, he will himself abandon such an untenable doctrine, founded as it is on an erroneous view regarding the nature of bile pigment. The colour induced by sulphuric acid on the acids of the bile is as different in its chemical nature, from animal pigment, as any two substances can possibly be. Indeed, they have no bond of connection whatever except the mere tint."

It becomes obvious, on reflection, that although each form of

jaundice—that arising from suppression and that induced by obstruction—may be in typical cases, and indeed often is, found to exist alone, yet, also, there may be, under certain circumstances, a combination of the two conditions. Thus, for instance, that in jaundice from acute atrophy of the liver (of which formidable disease Dr. Harley gives an admirable account) the suppression of bile secretion may not be absolutely complete, and that of the bile which, it is true, is secreted in diminished quantity, a portion may, from other causes, be absorbed, and so cause the appearance of the bile acids in the urine, which would not be the case if the secretion were absolutely suppressed; while, on the other hand, it is certain that jaundice from obstruction cannot long exist without giving rise to the circumstances necessary to produce suppression of the bile secretion; for the continued backward pressure exerted on the hepatic parenchyma by the over-distended bile-tubes sooner or later impedes the circulation in the organ to an extent sufficient to induce an impairment, if not an almost total arrest of the secretion. Hence arises a satisfactory explanation of the fact, that in the later stages of jaundice from obstruction the biliary acids gradually diminish, and finally disappear from the urine.

There are many passages in Dr. Harley's book to which we should gladly direct attention did our space admit of it. We must content ourselves, however, by referring to the work itself such persons as are really interested in the chemistry and physiology of this important subject. The author's commentaries on the diagnostic value, in hepatic disease, of the presence of tyrosine, leucine, melanine, sugar, &c., in the urine, are, we can assure our readers, eminently suggestive and truly practical.

Although it is in that part of the volume before us in which the author deals with the chemico-physiological aspect of the subject that he appears to us to shine, yet the concluding pages, as to the treatment of jaundice, are well worthy of perusal.

Dr. Harley speaks, in succession, of the treatment of jaundice by mercurials, alkalies, benzoic acid, podophyllin, and prepared bile. Of benzoic acid he speaks favourably; podophyllin he considers useful in cases of feeble liver, where there is an insufficient secretion of bile from want of nervous power, in which cases he considers mercury to be contra-indicated. Podophyllin can be advantageously combined with vegetable tonics; and, when given along with gentian or quinine, forms an admirable hepatic stimulant in some of the cases usually denominated "torpid liver." This remedy,

however, is now-a-days not unfrequently injudiciously administered. It is indeed as objectionable in cases of jaundice from obstruction as it is often beneficial in jaundice from suppression.

As a palliative mode of treatment for permanent jaundice, arising from closure of the bile-duct, Dr. Harley proposes an operative procedure well worthy of consideration:—

"When the occlusion of the common bile-duct is caused by an organic tumour, no treatment of ours can be expected to remove the obstacle, and sooner or later the patient is carried to an untimely grave. Our efforts of relief in such a case ought therefore to be directed to another channel; and here, in order to give the sufferer at least some chance of recovery, even although it be little better than a forlorn hope, I cannot refrain from recommending, in cases of permanent occlusion of the duct, in which there is great distension of the gall-bladder, the establishment of an artificial biliary fistula. Were this done, the patient would be placed, as nearly as possible, in the same condition as an animal in which the operation has been performed for physiological purposes, and, we might almost hope with an equally favourable result, at least, in as far as the biliary functions are concerned. In the first place, we would have removed all the derangements resulting from the interruption to the flow of bile, and consequent upon the distension of the ducts. In the second place, we would have obviated the danger arising from the poisonous effects of the re-absorbed bile, which the experiments previously cited (page 98) show are of no trifling nature; and, lastly, we would only require to combat the evils arising from the absence of the biliary secretion in the digestive process, which, as was before said, can to a certain extent be overcome by giving an additional quantity of food, and paying attention to the bowels. In these remarks I have omitted taking into consideration the effects that might arise from the tumour, or other obstructing cause to the biliary secretion, for these would in no way be directly influenced by the establishment of the biliary fistula.

"The artificial establishment of a biliary fistula in the human subject, is not such an Utopian idea as might at first be imagined. Distended gall-bladders having been several times tapped with success, both in this and other countries, and the permanent establishment of a fistula, if done in the manner I shall immediately point out, would, in my opinion, be a much less hazardous operation than simple tapping. Biliary fistula in dogs are generally made in a single operation, by cutting through the abdominal parieties, seizing the gall-bladder, stitching it to the lips of the wound, and inserting a cannula. Here there is always some danger of the wound not healing by the first intention, and of the passage of bile into the abdominal cavity. In the case of the human subject, I should,

therefore recommend the inducing of the adhesion of the gall-bladder to the abdominal parieties by means of an escharotic, before making the opening; in which case, I can scarcely imagine that the operation would prove one either of difficulty or danger. But even supposing that it were not entirely free from either, it would still surely be preferable to give the patient at least a chance of prolonging his life, rather than to permit a fatal affection to run its uninterrupted course, which we know can, at best, be calculated by months only."

Dr. Harley's experiments, both chemical and physiological, have led him to propose, not only a new method of preparing bile for medicinal purposes, but to suggest a new mode of administering it. As regards its preparation, fresh bile should be taken directly from the gall-bladder of a newly-killed pig, and filtered through very porous filtering paper, to free it from mucus; it is then to be, as rapidly as possible, evaporated to dryness, at a temperature not exceeding 160° Fahr. If well prepared—that is to say, thoroughly freed from its ferment mucus by filtration, and well dried—it may be kept in well-stopped bottles for many months without losing any of its active properties.

In order to act on the chyme at the proper moment, prepared bile should be administered at the end of stomachal digestion. In order still further to ensure the action of the bile being delayed until the food is in a condition favourable to its action—that is, until it is ready to pass from the stomach into the abdomen, Dr. Harley has the prepared bile put into capsules which are not readily acted on by the gastric juice. These capsules are prepared by Messrs. Savory & Moore, and are found to answer well the purpose for which they are intended. While in the stomach the capsules swell up from the size of a pea to that of a small gooseberry, and at the same time become so soft as readily to burst in passing through the pylorus. We cannot doubt that the author is correct in stating that prepared bile thus administered is a preparation essentially serviceable in many cases besides jaundice, as, for instance, the dyspepsia of persons of sedentary habits, and indeed dyspepsia in general, with an inactive state of the liver.

In concluding this meagre sketch of Dr. Harley's book we have but to repeat that we can with truth recommend it as a work the practical merits of which will cause it to be appreciated by the physician working at the bed-side.

On the Treatment of Syphilis, and other Diseases, without Mercury: being a Collection of Evidence to prove that Mercury is a Cause of Disease, not a Remedy. By Charles R. Drysdale, M.D. London: H. Baillière. 1863. pp. 133.

We earnestly recommend this *brochure* to the attention of our readers. It deals with a subject which all must admit to be of paramount importance. However those who read it may differ from the author as to the therapeutic value of mercury, all will confess that it is a very able production, written with great clearness, by an individual as truly anxious to rend the veil of empiricism which still shrouds the science of medicine as he is thoroughly in earnest in his search for philosophic truth. For ourselves, we must, at first, distinctly state that we do not agree with Dr. Drysdale in the sweeping assertion, that mercury "now holds its place among the list of remedies solely from its having been used by the practitioners of the past, without any sufficient evidence that it is ever of the slightest service." We conceive that the great majority of medical men in this country will hesitate to give their adhesion to this doctrine. Indeed we think that Dr. Drysdale would have raised his voice against the drug to which he is so hostile with much better effect if he had not allowed himself to be carried away to the adoption of so extreme a dogma. Nevertheless, we very confidently predict that few will take the trouble to peruse with care, and weigh with candour, the evidence accumulated in the work before us without having their views strangely modified as regards the mercurial treatment of disease.

It is not our intention to attempt an analytical review of this work; indeed it would hardly be possible, for it is itself nothing more than an account of the views of others, and an analysis of facts and arguments for and against mercury. We must content ourselves by stating that the author commences by a logical disquisition as to the imperfection of the empirical method of judging of any remedy. He next speaks of mercury as a remedy for disease in general, and devotes a short and interesting chapter to the consideration of the natural history of animal poisons.

The rest of the volume is devoted to the question of the mercurial treatment of syphilis. The evidence here brought together seems to us to be fairly stated on both sides, and is arranged as follows:—

1. The treatment of syphilis before the Peninsular war.

2. Evidence against mercury in syphilis. from 1812 to 1840.

3. The reactionary period—the views of M. Ricord and the so-called eclectic school.

4. Recent evidence against mercury in syphilis.

It has been, in these chapters, Dr. Drysdale's aim to lay before the mass of the profession, in an accessible form, the evidence which has convinced himself, and which he believes is what is wanting to enable others to arrive at a conclusion on the subject of the mercurial treatment of disease; and it is our object, in this brief notice, to urge our readers to peruse the evidence here accumulated.

Dr. Drysdale tells us that in the Edinburgh school mercurials now hold but a slender footing; and, in the practice of some of the leading physicians and surgeons, seem reduced to the function of acting as a purge, and, by some, to the treatment of iritis when of the sthenic form. In London he perceives symptoms of a revolt against the routine practice of mercurial treatment. In Paris the virtues of mercury do not seem to be so fully recognized as in London, as all know who have attended hospital practice in that city. "In Dublin," Dr. Drysdale (as we believe correctly) states that "the use of mercurials is very general, and there is hardly a pathological state in which the value of the drug is not thought to be perceived. Mercury, in some of the hospital staffs in Dublin, when I visited that city, was profusely exhibited by some practitioners in almost every disease."

The true mercurialist will accept this as a compliment to the Dublin school. For our part we cannot do so; and we hope that there are not a few who, with us, will admit that it is a censure not undeserved, and who will be roused by it to strive to correct a fault which, to our mind, is productive of extraordinary evil, and is a stain upon the fair fame of a school of medicine and surgery which we are proud to consider, in most respects, second to none in the world. Even admitting, for the sake of argument, the value of mercurials in the treatment of acute inflammation, must it not be admitted that the good is purchased at a very great price? If pneumonias and acute attacks of pleuritis, &c., can be cured without mercurialization, why have recourse to a remedy which, however valuable some may suppose it to be, few will deny to be capable of leaving behind permanent ill effects, seriously damaging the constitution so long as life lasts. Some one may say that they fail to perceive these long-lasting ill effects from the internal exhibition of mercurials. With such persons we cannot reason; neither should

we advise such persons to spend their time in reading Dr. Drysdale's work. It can have no effect on persons who are so entirely "under the influence of mercury" that they pass through the world, as it were, blindfolded. But to those who believe that in handling mercury they wield a two-edged sword, powerful for good and most potent for evil—to those who admit that after a mercurial course a man's constitution never is what it was before it: how that the strong man is weakened by it, and the frail man shattered—to those, in short, who have observed, with regard to the ill effects of mercury, even when administered by our best practitioners, what, alas! we have but too many opportunities of observing, to such we earnestly recommend Dr. Drysdale's work. We know that not many will go the length he would desire; but we assure our readers that they will here find an amount of evidence worthy of being read, marked, and inwardly digested.

We are very well aware that such works as those of Dr. Hughes Bennett, Dr. Habershon, and Dr. Drysdale will not shake the faith in mercury of those practitioners whose minds are stocked with a multitude of facts, all looked upon, during a long course of years, from a point of view directly opposite to theirs; but we look, with confidence, to the future—to young observers, not bound by the dogmas of one teacher or the tenets of one school, and who are anxious to view both sides of the question with impartiality. We feel little doubt that they will not give to mercury, as a therapeutic agent, the place it held in the estimation of our forefathers, or even of our fathers.

We would, first of all, have them know that there exist amongst the most learned, the most experienced, the most conscientious of the professors of the medical schools in Great Britain, persons who doubt the therapeutic value of mercury, while there are few, indeed, who will deny its deleterious action on the human frame. This alone will be enough to stimulate them to enquire into the subject more fully than they have yet done; and we venture to promise them that, when they come to do so, they, like ourselves and Dr. Drysdale, will confess that they "have not been aware of the overwhelming amount of evidence accumulated against the specific treatment of syphilis."

If evidence arising from their own experience be subsequently added—if they see a young man having an indurated chancre, and, in due course, sore throat, pains, eruption on the skin, and ulceration of the tongue, yet recovering without being mercurialized, nay,

without taking any mercury at all, and, some years later, an apparently healthy man, and the father of healthy children, they will at least admit that mercury is not a *sine qua non* for the cure of syphilis.

But let us not be misunderstood. We do not ourselves doubt the usefulness of mercury in syphilis. What we are convinced of is, that it is given in a large number of cases where it is not required, and that in the treatment of other diseases it is used oftentimes with a recklessness, an utter disregard of the patient's future, which cannot be too severely censured. It is with the hope, the earnest hope, of lessening these evils that we recommend to our readers Dr. Drysdale's work; and we do so from the sincere conviction that the subject is one concerning which the Irish school of medicine and surgery needs reformation.

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1. *The Treatment of Hoarseness and Loss of Voice, by the Direct Application of Galvanism to the Vocal Cords.* By Morell Mackenzie, M.D., &c. Reprint.

2. *The Laryngoscope; Illustrations of its Practical Application, and Description of its Mechanism.* By George Duncan Gibb, M.D., &c. Illustrated with Thirty-five Wood Engravings. London: Churchill. 1863. 8vo, pp. 50.

3. *Practical Remarks on Laryngeal Disease, as Illustrated by the Laryngoscope.* By E. H. Sieveking. M.D., &c. Reprint.

4. *Four Clinical Lectures on the Laryngoscope.* By P. C. Smyly, M.D., &c.

It affords us much pleasure to see the laryngoscope taking the place it is entitled to in the hands of practitioners. We recently gave a very full analysis of Professsor Czermak's treatise, describing its mechanism, and the mode of using it; and we have now before us several pamphlets describing cases treated by its means, by direct applications to the larynx. Dr. Mackenzie, the author of the first of the papers on our list, commences by stating that "the object of his paper is not to enter minutely into the nature of neuroses of the larynx, but briefly to describe those diseases where, from abnormal

innervation, the vocal function is disturbed or destroyed, and in which the local application of galvanism appears to act beneficially," and in the succeeding pages faithfully carries out this object.

Electricity as a stimulant to muscular action is well known, and has been frequently applied to the larynx externally, and in some cases with marked success. But, unless the electric current be passed in the direction of the muscular fibres, its action as a local stimulant is not very great. The muscles which act on the vocal cords almost all run in the direction from behind forwards, and are all placed deeply in the neck in front of the œsophagus. The application of a direct current, from one extremity of these muscles to the other is therefore impossible when the conductors are placed externally. It was not, however, until Czermak enabled "the eye to direct the hand," that it became possible to apply galvanism directly to the nerves and muscles of the larynx.

Dr. Mackenzie has contrived a very simple and efficient instrument, and with which he has succeeded several times in curing cases of long standing aphonia, which had obstinately resisted the ordinary external mode of applying galvanism. In our own pages cases have been recorded, in which galvanism was applied in this way in the Meath Hospital, one of which Dr. Mackenzie quotes, which was treated by Dr. Smyly, in Dr. Stokes' wards.

Dr. Mackenzie's cases are given in a plain straightforward manner, and though most surprising we have not the slightest doubt of their critical truthfulness. We will mention the headings of some of the cases, referring our readers to the *brochure* for the details:—"Case I.—Loss of Voice, of Three Years' Standing, Cured by Eight Applications of Galvanism Internally; a Hoarse Voice Returning after the Fourth Application. Case III.—Aphonia of Six Months Standing, Cured by a Single Internal Application of Galvanism. Case VI.—Diphtheritic Dysphonia of Fourteen Months Duration, Cured by Twenty-four Applications. Case VII.—Aphonia of Ten Months' Duration, Cured by Three Applications." This case was reported in our Clinical Records for August. It was treated by Dr. P. C. Smyly. "Case XI.—Dysphonia of One Year's Standing cured by Fourteen Applications."

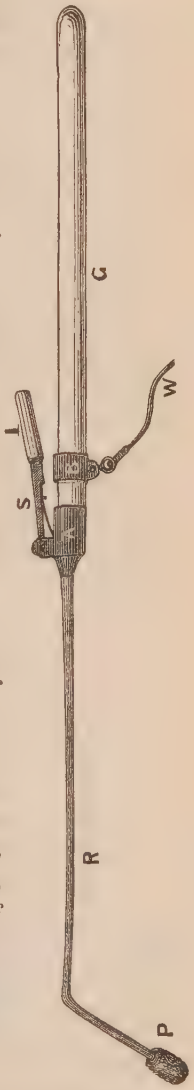
The following woodcut (Fig. 1) shows Dr. Mackenzie's instrument. The current cannot pass beyond the metal ring (B) until the operator touches the ivory handle (I); as soon as the spring connects the two rings (A and B) the circle is complete, and the current passes. The irritation of a foreign body in the larynx

causes the vocal cords to become tightly approximated, and thus renders it easy to touch their upper surface. By placing the point of the laryngeal galvanizer on the arytenoid cartilages, both branches of the pneumogastric may receive the electric impressions.

Dr. Mackenzie considers "the success attending the application of galvanism to the cords, in aphonia, will depend entirely on the proper selection of cases suitable for treatment. The absence of any structural disease or inflammatory changes, on the one hand, and a state of impaired innervation, on the other, are, of course, the features which promise the most satisfactory results from this method of treatment."

We strongly advise those of our readers who have taken to the practice of laryngoscopy to supply themselves with Dr. Mackenzie's instrument.

Fig. 1.

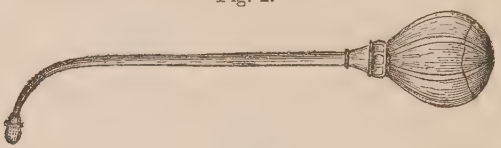


Dr. Gibb, the author of the second paper on our list, has long been favourably known to our readers by his writings on hooping cough, diseases of the throat and windpipe, and on diseases of the hyoid bone; he is also the translator of Professor Czermak's treatise on the laryngoscope, so that he comes before us as a writer of considerable authority, and one on whose observations on the practical application of the laryngoscope must command attention. In the pamphlet at present before us he describes and figures many forms of disease discovered in the larynx and its appendages, and also in the posterior nares, which but for the laryngoscope must have remained unknown, and many of which he was enabled by its use to treat successfully.

Dr. Gibb gives a selection of cases illustrating all the forms of laryngeal disease that have come before him, and he describes special apparatus for the direct treatment of localized disease. Many of his cases are examples of follicular or other disease of the mucous membrane; and for these, besides the application of solutions of nitrate of silver, and other fluids, by brushes and sponges, on

whalebone stems, he recommends the injection of fluid in a fine spray, by means of an instrument made for him by Messrs. Weiss, and which he calls a *laryngeal fluid pulveriser* (Fig. 2). It consists of

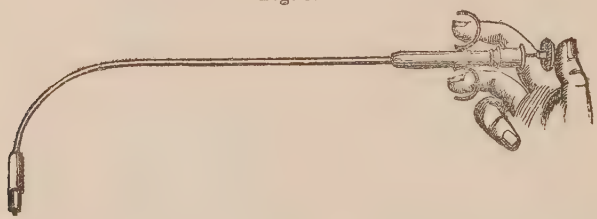
Fig. 2.



a curved tube of silver, gold, or platinum, with an Indian rubber receptacle at one end, and a platinum capsule at the other, so finely perforated that the holes are invisible to the naked eye, yet permitting, without producing any cough, and rarely even a spasm, of the injection of a fine spray into the trachea, throughout its entire length. In some cases Dr. Gibb uses the large instrument, exhibited by Sales-Girons in the last Exhibition, for pulverising fluids, and, he states, with very great benefit.

Where it is necessary to apply solid caustic to destroy growths that cannot otherwise be removed, Dr. Gibb uses the following instrument (Fig. 3). It consists of a curved silver cannula, containing the

Fig. 3.



caustic within the end of the curve from which it can be protruded by pressing on the end of the piston-rod, and after touching the diseased part may be withdrawn again into its sheath. Where the growth is of such a nature that it can be removed, as in several of the cases described, and of two of which we append figures, Dr. Gibb uses an écraseur for taking them off (Figs 4 and 5).

Fig. 4.

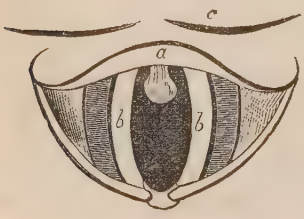
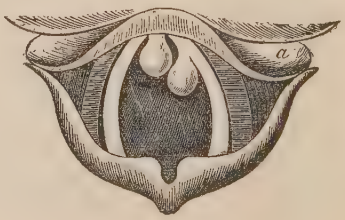
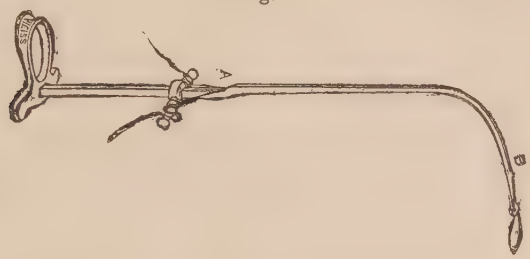


Fig. 5.



The écraseur is but a modification of the instrument known as Wilde's snare, for removing polypi from the ear (Fig. 6).

Fig. 6.



Dr. Sieveking's paper and Dr. P. C. Smyly's lectures, are chiefly occupied with the details of construction and manipulation of the laryngoscope. Dr. Smyly enters very fully indeed into the subject, and we rejoice to find him teaching its use practically to the pupils of the hospital. He figures an improvement in the instrument, which he first described in our own pages, and of which there is a drawing in our last volume, page 129. He also details many cases successfully treated, several of which are already known to our readers.

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1. *The Spas of Europe.* By Julius Althaus, M.D. London: Trübner and Co. 1862. 8vo, pp. 494.

2. *Traité Thérapeutique des Eaux Minerales de France et de l'Etranger.* Par le Docteur Max Durand-Fardel. Deuxième Edition. Paris: Germer Baillière. 1862. 8vo, pp. 773.

3. *A Practical Treatise on the Medical Properties of the Aix-la-Chapelle Hot Sulphureous Waters.* By L. Wetzlar, M.D. Aix-la-Chapelle: Benrath and Vogelgesang. 1862. 8vo, pp. 100.

4. *Neuenahr; a New Spa on the Rhine.* By James Miller, F.R.C.S.E. Edinburgh: Oliver and Boyd. 1861. 8vo, pp. 35.

5. *Clinical Essay on the Mineral Waters of Eaux Bonnes (Pyrenees), and their Value in Consumptive Diseases.* By Dr. Lucien Leudet, Consulting Physician at Eaux Bonnes. London: Fieldson and Jary. 1862. 8vo, pp. 22.

6. *The Sulphureous Bath at Sandesjord, in Norway.* By Drs. Ebbeson and Hörbye. Christiana: Carl C. Werner and Co. 1862. pp. 49.

7. *A Notice of Mentone; with an Account of San Remo.* By Edwin Lee, M.D. London: W. J. Adams. 1862. pp. 60.

8. *Mentone in its Medical Aspect; being Letters addressed to a Medical Friend.* By James Scordet, M.B. London: Churchill. 1863. pp. 111.

9. *Vichy and its Mineral Springs.* By Edwin Lee, M.D. London: John Churchill. 1862. pp. 38.

10. *Homburg and Nanheim.* By Edwin Lee, M.D. London: John Churchill. 1861. pp. 40.

11. *The Principal Baths of Germany, France, and Switzerland, considered with reference to their Remedial Efficacy in Chronic Disease.* By Edwin Lee, M.D., &c. 4th Edition. London: Churchill. 1863. pp. 308.

12. *The Watering Places of England Considered, with Reference to their Medical Topography and Remedial Resources.* By E. Lee, M.D., &c. 4th Edition, Re-issued. London: Churchill. 1863. pp. 339.

The student who has completed his medical education by successfully achieving all the honours of halls, colleges, and universities, and who, as he fondly hopes, has qualified himself for that great competitive examination, *the confidence of the public*, and, as a consequence, a fair share of practice, by the addition to his name of any number of honorary distinctions in the shape of A.B.C.'s and X.Y.Z.'s, will find himself miserably deceived if he contents himself with the amount of school lore with which his mind has been stocked during his pupilage; or, if he feeds himself up with the flattering notion that a competent knowledge of anatomy, surgery, practice of medicine, chemistry, materia medica, midwifery, and all the other multitudinous subjects upon which he has been lectured, re-lectured, and *ground*, will fit him to fulfil, with credit to himself, the *rôle* of a medical man, ministering to the diseases of that class of patients found amongst "the upper ten thousand." Consulted by one of this privileged class, suffering

from a rheumatic pain about the shoulder, it will not suffice for him learnedly to establish that the lesion is limited to the rhomboideus minor, and content himself with suggesting the employment of the routine treatment that, no matter how successfully, he has seen followed in the wards of his hospital. Applied to, by the fond and anxious mother, as to the cause of the slight cough and increased delicacy of appearance of her darling child, his duties will not be considered as thoroughly discharged, no matter how accurately he may establish the pathological condition of the lung on which these symptoms may depend, or how skilfully he may prescribe for their amelioration or removal. His opinion sought by the gouty or dyspeptic invalid, let him not lay to himself the flattering unction that he is *functus officio* when he has written for him his prescription, and, *nimis fortunatus!* pocketed his fee. No; far more is expected of him; and, in these days of progress, if he wishes to obtain and to *retain* the confidence of his wealthier patients, he must be prepared to satisfy *all* their requirements.

Were we asked, what are the questions, so far as our profession is concerned, that now-a-days most agitate the public mind? our answer should be diet, climate, and the use and abuse of mineral waters, and of baths of every kind and description; and, so far as our own experience goes, perhaps baths should have been enumerated first, inasmuch as medical opinion is more frequently sought as to their efficacy and advisability, both in health and disease, than upon any other subject of hygiene. Which of us has escaped the, upon the part of the public, almost stereotyped query, "Doctor, what is your opinion about the Turkish bath?" How frequently are we asked the question, especially during the summer months, "whether open sea bathing will agree with dear Amelia; or, whether you would advise a few warm baths as a preliminary?" and how few of us, during our studentship, have prepared ourselves by sufficient study of the subject for a conscientious and truthful reply? And yet upon all of these questions must the medical man in any practice be prepared to be consulted; and, as if it were to assist us in our emergency, we find our medical literature teeming with works bearing upon this very subject.

It is not our province, as certainly it is not our intention, here to discuss the question of the value of change of climate, *per se*, in the treatment of the class of affections for which it is so frequently recommended. We shall content ourselves with reminding the more junior of our professional brethren of the fact that it is one of

those questions upon which hereafter their opinions will be eagerly sought, and from the reply to which more character is to be gained or lost than, perhaps, at first sight they may surmise. It is also a question that deserves consideration in connexion with the very subject before us, inasmuch as the two questions may be advantageously considered in reference to each other, when we find that waters almost identical in composition may be found in climates widely differing in their character; so that we can direct our patient's steps in search of the water suited for his complaint either northward or southward, as we may judge which climate may be more suited for either his constitution or his disease.

Again, we have stated that a competent knowledge of the subject of dietetics is most important in the medical man's education, and will play a most important part in his future success in life. From the humblest to the highest classes the question inevitably comes, "What may he eat?" and it is one that should not be lightly answered or pooh-pooh'd. In many diseases the most important portion of the treatment will be found to consist in a judiciously and carefully selected diet; and upon the physician's judgment and the patient's amenability much of our success will depend. It need scarcely be insisted upon that this question of dietetics should be looked upon as a science, and not as one founded upon the arbitrary taste of the prescriber. Not long ago a shrewd tourist, born north of the Tweed, put some questions to us upon this very subject:—"Was fish nutritious?" "Were oysters wholesome?" &c., &c., and, commenting upon our reply, stated that his observation of the rules of diet laid down by medical men was to this effect, that they never recognized any article of food or drink as wholesome to which they were not themselves personally partial; that the doctor who disliked fish could never recognize it as containing a particle of nutriment; whilst the icthyophagite, on the contrary, in the spirit of the shoemaker in the fable, stoutly maintained "that there was nothing like fish." That there may be a leaven of truth in this opinion of our northern friend, perhaps, must be admitted; but that it should not be so can admit of no question.

But all this time, impatient readers may exclaim, what has all this to say to the question of mineral waters and their efficacy as therapeutical agents? Much, we reply; for in no other plan of medical treatment are those three great agents, mineral waters, diet, and climate, so admirably, yet so artfully combined as in a three weeks' residence at one or other of the more celebrated of our

British or foreign spas. To illustrate this let us refer to Professor Miller's admirable description of what may be termed "life at Neuenahr." To do justice to it would require a longer extract than our limits will permit; so we must content ourselves with summarizing it here, and strongly recommending our readers to apply to the fountain source for further information.

Up at half-past five o'clock, a.m.; dress; a smart walk to the springs; two to six glasses of the water—an interval of fifteen minutes, *spent in walking* in beautiful pleasure grounds, between each glass; and after the last glass a full hour of gentle exercise. Breakfast; an interval of two or three hours spent in reading, writing, &c.; then, the bath; after which, more exercise or reading. Dinner at one o'clock; at half-past three o'clock an excursion to some point of interest in the neighbourhood; at six o'clock more tumblers of water; eight o'clock, supper; and between nine and ten o'clock in bed, "snoring, making ready to be up again by five o'clock, or so, for a fresh day's work."

Of course the Professor got rid of his rheumatism, returned home with renewed health and vigour (which may he long enjoy, pray we), to Edinburgh, fairly in love with Neuenahr, and writes a most agreeable and readable account of his residence there; but, we may be permitted to ask, how much of this fortunate result is to be attributed to the clear, bracing air, and exercise? how much to the diet? how much to the *regularity* of meals? how much to the escape, *pro tem.*, from anxious, corroding, professional care and toil? how much to the "early to bed and early to rise?" and then the balance will stand for the value of the "Brunnen."

> "Curæ vacuus hunc adeas locum
> Ut morborum vacuus abire queas
> Non enim hic curatur qui curat."

Whilst thus expressing our opinion on the value of these most important items to be found at the spas, we must not, however, be understood as attributing every virtue to them, and none to the mineral waters themselves—far from it; we admit that they also play a most important part in the restoration of the invalid to health. We only claim for the accessories the merit that they deserve. Mineral waters, celebrated for the cures that they have effected, have been analyzed, and exact counterparts prepared—nay, they themselves have been carefully bottled and exported, and that only to disappoint the expectations of both patient and prescriber,

whilst the same waters, drank at their source, have effected wonders. True, that the reason for this may partly be the extreme difficulty of making an exact counterpart of the products of Dame Nature's laboratory, or of the difficulty of bottling them so as to preserve their chemical relations. Still, of a surety, that is not the entire truth, which is only to be found in the remarks we have ventured to make, and which, in our opinion, justify the observation of Chaptal, that " En analysant une eau minérale, on n'en dissèque que le cadavre."

Impressed, therefore, as we are, with the importance of the invalid in want of mineral waters invoking their aid at their native source, we have to congratulate our medical brethren on the production of a work in their native language, fully up to our requirements, and at least on a par with the valuable monographs that already grace continental literature. *The Spas of Europe*, by Dr. Althaus, is a work that must maintain his already deservedly high literary reputation; and, we say it advisedly, will bear comparison with the valuable writings on the same subjects by Durand Fardel, Pétrequin, and Socquet, and the authors of *Dictionnaire des Eaux*. In it will be found full and trustworthy information about all the spas of reputation in the treatment of disease in Europe, the latest chemical analysis of their several waters, and full directions as to their employment in disease. The work is divided into six chapters: in the first of which is discussed the origin of springs; in the second, third, fourth, and fifth, respectively, the physical properties, the chemical composition, the geographical distribution, and physiological action of mineral waters; whilst the sixth, constituting nearly one half of the work, is devoted to their therapeutical uses. To attempt, in an article such as this, to give our readers even a faint idea of the value of Dr. Althaus' work would be futile; we must content ourselves with recommending it most cordially, as a standard work on the subject of which it treats, and referring our readers to its pages for information on a branch of his profession which we have already shown to be so important.

M. Durand Fardel's work, of which this is the second edition, is one that in his own country has gained for him high reputation. It is divided into two parts—the first of which, devoted to what he terms the Materia Medica of mineral waters; the second to the consideration of their therapeutical history; this latter, as in Dr. Althaus' work, constituting by far the largest portion of his treatise.

It would be difficult, indeed, to find terms of praise strong enough to characterize his labours. Sufficient to say, that his work is exhaustive of its subject. Accompanying it is a most valuable coloured map, on which we have signalized every station of importance, the colours being so arranged as to indicate the predominating chemical characteristic of the spa. Altogether we feel that M. Durand-Fardel has, in the present edition of his *Eaux Minérales*, worthily upheld a character deservedly illustrious amongst his continental collaborateurs.

We wish much that our limits permitted us to dilate upon the importance in every point of view of our searching out and *trumpeting* similar spas in our country. Ireland is not bankrupt in this respect. We have springs in every way deserving of consideration and development, but now-a-days neglected for continental rivals, in no whit their superior, in many respects their inferior. Easy of access, rich in mineral ingredients, surrounded with natural beauties of the highest order—all that they require is development; and if *developed*, we promise that Ireland will yet share a portion, ay, and a fair portion, of that public favour now so freely lavished on our continental neighbours. To one Irish physician great praise is due, for his exertions to bring the claims of our Irish watering places before the notice of the public, in Dr. Knox's *Irish Watering Places* their value and importance are done adequate justice; but were they as efficacious as the pool of Siloam in the healing of disease, they will be neglected until their resources are *developed* by proper hotel accommodation. We may not live to see the day, but we may venture to prophesy that the time will come, and that not far distant, when a joint stock company will see it to be their interest to select one or other of our more celebrated spas, and to establish there something on the same scale as attracts abroad annually, in hundreds and thousands, our wealthy hypochondriacs and invalids.

A Manual of Ophthalmoscopic Surgery, being a Practical Treatise on the Use of the Ophthalmoscope in Diseases of the Eye. By Jabez Hogg. Third Edition. London: Churchill and Son. pp. 296, 8vo.

The work before us is but a reprint of a previous edition, and its merits may in a manner be measured by its demand, to supply

which a third issue has been required from the author, who tells us he has not only enlarged, but almost entirely re-written, this present edition. Although the manifest advantages of the use of the ophthalmoscope in the diagnosis of diseases of the eye, has at last, we trust, fully struggled into almost universal recognition, we fear that some few are still lingering on the threshold of incredulity, to whom a perusal of the work before us may bring, if not conviction, at least additional information. But what information will the ophthalmoscope give us (say the sceptics) that we cannot obtain without it? At the eleventh page of the preface we can read the answer:—

"By means of this instrument, we have now not the least difficulty in determining the existence, or non-existence, of cataract, formerly surrounded by so much doubt that sometimes no amount of professional skill or experience could satisfactorily solve. The approach of cataract may be observed in its earliest stages, and long before it is discoverable by the unassisted eye. The ophthalmoscope demonstrates the physical cause of muscæ, and conversely, when it is a symptom of disorder; it has removed from ophthalmic nomenclature the indefinite term of amaurosis, where, as Walther observed, 'the patient and the physician were both blind,' by revealing the dependence of many such cases on causes widely different, but easily enough perceived by the ophthalmoscope; by disclosing retinal apoplexy it prevents, in some cases, an injurious resort to mercurials, and, on the other hand, by showing the presence of effusion of lymph on the deeper structures of the eye, it enables us to judge when such a treatment will prove advantageous and proper; and its value is considerable even in those cases of what may be called negative advantage, where, by showing the retina already detached and disorganized, the surgeon might otherwise, without such knowledge, have been tempted to perform an utterly useless operation."

These are some of the advantages to be derived from the use of the ophthalmoscope—advantages which need no comment from us.

The first eighty-eight pages of this work are devoted, first, to an account of the invention of the ophthalmoscope, in 1851, by Helmholtz—its construction, its several forms; followed by some very useful pages on "the optical principles involved in the use of this instrument;" which again are followed by a chapter on the "Structure and functional accessories of vision. Mutual relations of the structural accessories of vision, and the adjustment and accomodation of the eyes;" till finally, at page 89, we come to Chapter IV.,

on "Objective and subjective examination of the eye. Ophthalmoscopic appearances in health and in disease." At p. 98 we read the following advice and caution upon the subject of dilatation of the pupil;—

"The specific action of belladonna, and the use made of it to dilate the pupil, previously to an examination of the internal eye with the ophthalmoscope, require a few remarks from me; for although the advantages to be derived are incontestable, the evil sometimes ensuing from its incautious employment should not be allowed to pass unnoticed. I have frequently seen a drop of a very weak solution of atropine produce, in the healthy eye, a very large amount of congestion in the capillary vessels, more than sufficient to deceive the practised eye of the surgeon, and which might well be mistaken for a diseased condition. For some time, therefore, my practice has been tending towards its discontinuance as a general application; and I have found that in a vast number of cases, simply allowing patients to remain for a short time in a room somewhat duller than the light of day, has been sufficient to cause all necessary dilatation of the pupil."

We agree with Dr. Hogg in this cautious use of belladonna, for sometimes its effects pass away more slowly than is generally the case, the power of accommodation of the eye remains altered for some time, and if by any unfortunate coincidence the sight should get worse, the surgeon may get the credit of having aggravated the disease. At page 100 commences an account of the "Ophthalmoscopic appearance of healthy structures;" and finally, at page 116, we come at the real gist of the work, the introduction of the operation of "Section of the ciliary muscle," for the cure of ever so many affections—conical cornea, leucoma, keratitis, staphyloma of the cornea and sclerotica, glaucoma, irido-choroiditis, choroiditis, &c., &c., amply illustrated by cases and plates. We have now reached a subject on which, some little time ago, we would have felt disposed to differ somewhat from the author. He tells us that the operation of iridectomy has failed to obtain that amount of approval in England which is supposed, and he would wish us to believe that "simple section of the ciliary muscle is equally efficacious, while it is exposed to far fewer contingencies of subsequent serious complication" than in iridectomy. A very short time ago we would have taken very strong ground, indeed, in advocating the advantage of iridectomy in either glaucoma or irido-choroiditis; and perhaps a smile of considerable doubt might have been seen playing about the

corners of our mouth, when speaking of "section of the ciliary structures," as a substitute for it; but we have lately had opportunities of testing both operations, and our results, from simply plunging a narrow-bladed knife into the eye through the ciliary structures, have been so satisfactory that we feel determined, for the future, to give full trial to this operation before having recourse to the more serious proceeding of iridectomy. Division of the ciliary muscle and ligament is, however, no new operation. The old paracentesis oculi was simply a division of the ciliary structures; and all the advantages which the older ophthalmologists derived from paracentesis were, we believe, deducible from the fact, that in performing that operation they divided the ciliary structures, as can be seen by the following directions for its performance, taken from Mackenzie:—"The puncture should be made with a broad iris knife, at the usual place of entering the needle in the operation of couching. The instrument should be pushed towards the centre of the vitreous humour, turned a little on its axis, and held for a minute or two in the same position, so that the fluid may be allowed to escape"—thus of necessity dividing the ciliary structures. Division of the ciliary muscle is therefore about the simplest and easiest of all the operations on the eye; no assistant is required; it can be performed with safety even with restless patients, on whom iridectomy could not be attempted without the aid of chloroform, and in those deep-set eyes in which it is so difficult, and at times impossible, to make a horizontal section of the cornea; and, though last not least, it leaves no deformity behind; and, in case of failure, iridectomy still remains as a further resource.

As to section of the ciliary muscle having the power of flattening the cornea in staphyloma and conical cornea, &c., &c., we must, for the present, confess that we are doubtful about it; we shall, however, be very glad to believe and to adopt it, when we shall have seen it.

Dr Hogg's directions for the operation of iridectomy are to be found at p. 248, but they are somewhat at variance with those of Von Græfe:—"For iridectomy, the same knife, Wenzel's, or a triangular lancet-shaped blade is used. The anterior chamber is entered with the knife inclined at an angle, on the flat, carefully advancing the point towards the opposite side, so as to avoid wounding the iris and the lens. As the knife is withdrawn, the aqueous humour escapes, and the iris is either prolapsed by the flow or is brought outside the chamber by the ordinary small-sized iris forceps. It is here divided from its pupillary to its ciliary edge

on each side of the forceps, with small scissors, and the detached portion being then torn from its ciliary attachment, is carefully cut away from the rest of the iris." Now, instead of *tearing* the iris from its ciliary attachment, it should, on the contrary, be cleanly cut away with a stroke of a scissors, as near to its ciliary border as possible, in order to obtain free hemorrhage from the ciliary vessels, which would not take place if those were wrenched or torn asunder. This work is creditably got up, and well illustrated with many carefully-coloured plates, representing the ophthalmoscopic appearance of the fundus of the eye in different diseases, and will, no doubt, be of considerable use to those who are devoting their attention to the study of diseases of the eye.

On the Diseases of Women. By FLEETWOOD CHURCHILL, M.D., &c., &c., &c. Fifth Edition. Dublin: Fannin & Co., 1864. pp. 937.

WE have great pleasure in bringing under the notice of our readers this new edition of Dr. Churchill's Treatise *On the Diseases of Women*—a work that is now so universally known that we might dismiss it without further comment. It stands alike above the praise or censure of the reviewer. Since the previous edition of this work issued from the press, nearly seven years have passed over, and within that period gynecology has been making great advances, of which the author has been a careful observer; and therefore, to keep his book *au courant*, he has added some new chapters, enlarged others, and improved all. We perceive also that the number of woodcuts is greatly increased, the author borrowing from the plates of Boivin, Clarke, Huguier, Marion Sims, and M'Clintock. The same general arrangement is pursued as in former editions, and we do not see that there is room for any improvement in this respect. Book I. treats of the Diseases of the Non-gravid State; Book II. treats of the Diseases of Pregnancy; and Book III. those of Childbed. It is in the first of these divisions that we notice the most considerable additions, at least four new chapters having been added, viz.:—on Rodent Ulcer and Carcinoma of the External Genitals; on Vaginismus; on Encysted Tumours and Polypi of the Vagina; and on Pelvic Hematocele. These are all important subjects, and the chapters treating on them form a very valuable accession to the

Book. *Vaginismus* is a term first used by Dr. Marion Sims, and implying a spasmodic contraction of the vagina. This condition is not unfrequently the cause of imperfect or incomplete sexual intercourse, and as such it may give rise to a great deal of conjugal unhappiness. Professor Churchill has not found it necessary, in any of these cases, to resort to the same measure recommended by Dr. Sims—of deep incision of the vaginal sphincter—but he directs particular attention to the fact of vaginitis being a constant pathological condition; he is of opinion that the main point in the treatment is the removal of this inflammation of the vaginal mucous membrane. Our own experience in this matter does not lead us to regard vaginitis as so constant or so essential a feature; but, when it be present, we quite agree with the author that its removal should be the primary object of our treatment.

For the last some years ovariotomy has been attracting more and more attention, and has acquired a greater degree of importance than at any former time. The whole question, in all its bearings and aspects, is discussed, in Dr. Churchill's Treatise, with ability and strict impartiality. After reviewing and fairly weighing the arguments for and against it, the author gives his sanction to the operation in favourable cases. He would not, however, endeavour to *persuade* a patient to submit to it, and here we think he is perfectly right; the ethical rules of conduct in regard to this measure being different from those which should guide us in most other surgical operations. Professor Churchill's remarks on this point are so just and forcible we must quote them in full:—

"The risk in any individual case being so great, and the plunge from comparative health, and an infinite prospect of life, into immediate and imminent danger so sudden, the decision ought, in all cases, to be absolutely the act of the patient. She should be told the probable course and termination of the disease as ordinarily treated; then the proposed operation and its dangers should be laid before her in the plainest manner, and the decision left in her hands, without the least pressure on the part of the medical attendant. And this, not only because of the danger of failure, but because of the higher interests involved in the question of speedy death. We may regard the operation in a scientific point of view chiefly, but for the patient to leave out of consideration her own religious condition and prospects, would be little short of insanity. As we cannot decide upon this, it is an additional, and perhaps the strongest reason for leaving the decision to her own judgment."

If the claims of ovariotomy to a place among the recognized

operations of surgery were to rest on Irish statistics we fear it would not long hold its ground. A single successful case in three or four could not justify any operation other than one "of necessity." To what this ill success is to be attributed we are quite at a loss to say; certainly not to *Irish Surgery;* for four of these patients were operated on by two of the greatest ovariotomists in the world, and of the four cases but one terminated favourably. We can only set it down to what every practitioner's own experience can supply an illustration of, viz., to a run of ill luck.

We must now take leave of Professor Churchill, but not without expressing our sense of the obligation he has conferred on the medical community of the world at large by this new edition of his valuable Treatise; for we believe there is not to be found in any language so comprehensive a work on the Diseases of Women. We hope yet to see many future editions of it, each more enriched by the fruits of that enlarging field of professional experience and observation, which is the just reward of his earnest application and unwearied industry in the cultivation of this branch of medicine.

On Human Entozoa: Comprising the Description of the Different Species of Worms found in the Intestines and other parts of the Human Body, and the Pathology and Treatment of the Various Affections Produced by their Presence. To which is Added a Glossary of the Principal Terms Employed. By WILLIAM ABBOTTS SMITH, M.D., M.R.C.P., London, &c.

WRITING of critics, Aikin says:—"He whose first emotion, on the view of an excellent production, is to undervalue it, will never have one of his own to show." With this wholesome caution before us, we shall endeavour to make a few remarks on the work of Dr. Abbotts Smith, whose book, *prima facie*, commends itself to the medical reader. But, is it his book? A critic has said, "*No;*" and we think a few words may be expended on this important question.

Dr. Smith has been charged with having given to the profession, as his own, a book which is mainly a *translation*, more or less literal, but always excellent, of a larger work on the same subject, by M. Devaine, of Paris. The unfriendly critic has also accused the writer of the English work of transferring woodcuts to it from an unacknowledged source; of giving, as original, quotations made

by M. Devaine from *other writers;* and of doing all this without proper permission. Dr. Smith, in a letter to *The Medical Times and Gazette*, of May 2nd, 1863, says, in effect, that he has clearly stated, in his Preface, his large obligations to M. Devaine, and to his publisher (with whom it was a *money* question): that he would have stated his book, on the title-page, to be in part a *translation*, were it not that such an expression would be calculated to mislead as to the size and greater extent of M. Devaine's work: that M. Devaine did give him *permission;* and as to the *title* M. Devaine thus speaks for himself:—"Je vous autorise parfaitement à dire que c'est avec mon consentement que votre ouvrage ne porte point le titre de traduction. Cet ouvrage, ne reproduisant pas le mien intégralement, ne pouvait en être considéré comme le traduction."

Dr. Smith satisfactorily explains the *quotation* matter, and then announces his intention of having the words "partly translated, &c.," inserted on the title-page in future.

As to the insinuation of *falsehood*, we feel bound to say that it is wholly groundless. Dr. Smith has not concealed, but openly stated, his large obligation to M. Devaine; and has proved not only his permission to use, but M. Devaine's knowledge of, and consent to, the use made of his work.

As to the *mode* in which these obligations were published by Dr. Smith, we think there is fair ground for exception, and room for criticism also. When Dr. Guy re-edited and, in fact, re-wrote Hooper's *Vade Mecum;* when Dr. Neligan re-edited Graves' *Clinical Medicine;* and when Dr. Power re-edited, and almost wrote a book of his own on *Flood on the Arteries*, the profession were made *perfectly* aware of the respective merits of author and editor. So, also, when A. B. writes a translation of Hippocrates, with any amount of commentary, he does not entitle it the work of A. B. on such a subject, and express his large obligations to the father of medicine. Since Dr. Smith says he has himself been a reviewer and a critic, he will, we hope, accept our friendly suggestion and put, not "*partly* translated," but "in *great* part translated," on his title-page; and distinguish, either in his Preface or in the body of his work, the extracts from M. Devaine's treatise. Thus, and thus only, will he remove any ground for remarks about plagiarism.

The book before us contains 251 pages of letterpress, printed in large and clear type; and consists of three parts, besides a glossary of terms, and an index for reference. Part I. is entitled "Synopsis

of the Entozoa which are found in Man." In five chapters this part of the subject is disposed of, and is illustrated by a series of woodcuts, some of which are very excellent, and reflect credit on the engraver, whoever he may be. In Chapter I. the writer enumerates the various protozoa which are known to affect the human subject; and under the head "*vibriones*" includes two genera. Of one, "*genus bacterium*," he says, "the protozoa belonging to this genus are found in various animal fluids, when in a state of decomposition, in the white matter which collects about the teeth." Of the other, "*genus vibrio*," he observes, "the microscopical parasites belonging to this genus are found in the evacuations of persons suffering from cholera and from diarrhœa, in putrescent urine, and in the purulent discharge of balanitis and of leucorrhœa." In a useful note on Chapter II. on "Cestoidea," he gives a clear account of *alternate generation* or *digenesis*, by which he understands "the succession of dissimilar generations, sexual and non-sexual, after which the primitive type is resumed." In the same chapter, at p. 16, he refers to the experiments of Von Siebold, and Van Beneden, which led them to conclude "that the echino-coccus becomes developed into a perfect tænia in the intestinal canal of the dog." And he asserts that "hydatids have been observed in man, in the ox, in the sheep, in the pig, in the monkey, and other animals which usually feed upon vegetables. They are almost, if not always, absent in carnivorous and in rodent animals, in birds, reptiles, and fishes." The propagating power of some of these entozoa is almost beyond conception. Thus, at page 20, we are told that in a tænia serrata, which is not a very long worm, there were twenty-five millions of eggs. In the bothriocephalus, another of the cestoid worms which infests the small intestines in man, the fecundity is so enormous that at page 29 we read how

> "Eschricht has counted, in a single specimen, ten thousand rings, and reckoning at the rate of a thousand eggs for each ring, which is below the average, this would amount to ten millions of eggs from one bothriocephalus alone."

No part of the human body is free from these entozoa, which according to their respective genera and species, inhabit special organs of the body, and the passages communicating with these organs. Not only are the liver and urinary bladder so inhabited, but even the eye has been observed to contain them. One—

distomum ophthalmobium—is referred to at page 38; and at pages 48 and 49 the reader is introduced to the inhabitants of the kidneys and the lungs.

Part II. treats of the "Pathology and Treatment of Human Entozoa." As we have already observed that no part of the body is free from the attacks of entozoa; so, in this portion of the book, the writer enumerates "the most inaccessible situations" which have been infested. The interior of the eye, the brain, the spinal canal, and the cavities of bones are remarked on; with the stomach, the intestines, and the respiratory passages. He says:—"Of all the influences which bear upon the existence of entozoa, that of geographical position is the most evident, and was even well known to the ancients." He then enters at large into this part of the subject, and also discusses the effects of climate, of the seasons, of moisture, of diet, of sex, of constitution, and of age, on the propagation of entozoa. The consideration of these questions is of no small importance when we discuss the diet of our sailors, the water and food of our Anglo-Indian population, and the state of the meat and vegetable markets at home. And it cannot be doubted that the *helminthiasis*, or constitutional predisposition to worms may be largely counteracted in many cases, by scientific attention to the natural history of nursery diet.

The remarks (pages 92, &c.) on worms getting into the larynx, the difficulty of their extraction from it, and the occasional suffocation resulting from their non-extraction, are worthy of attentive perusal. The difficulty of diagnosis and successful treatment in such cases is well known to practical men.

Part III.—"Special Therapeutics" is the most useful part of this book; and, we believe, the most original also. Up to the time of Leclerc, who published a work on anthelmintics at Geneva, in 1715, there were 419 commonly known remedies, and from that time to the present perhaps as many more. Dr. Abbotts Smith does not favour us with disquisitions on any large number of this long catalogue; he merely gives the benefit of practical experience respecting such of them as are now capable of being used by us. He thinks the common wormwood, either in powder or infusion, a most useful agent, and remarks that "the natural order Compositæ, which comprises the Artemisiæ, also includes the chamomile, tansy, and other bitter herbs, which act similarly to, although not so efficaciously as, the wormwood." He places little confidence in the administration of acids, and thinks aloes chiefly owes its anthelmintic

property to its purgative effects. The same is true of gamboge, jalap, and scammony. However, he says of the *external* use of aloes: "It is stated to have been employed with success externally in the form of poultices made of the fresh juice of the plant, and applied to the abdomen, and the instillation of tincture of aloes, combined with one-half of its amount of water, between the eyelids, has been known to produce the death of the filariæ, which were situated in the anterior chamber of the eye, and which became subsequently absorbed." An interesting case is recorded (in a foot note, at page 109) in which a solution of *tartar emetic*, injected into the median vein of the left arm caused the patient to vomit several worms. This mode of treatment was resorted to because of the rigid tetanic closure of the mouth and jaws. The male fern, made famous by Galen, and Dioscorides, still retains its popularity, and testifies to the observations and experience of the ancient physicians. If the plant be collected in the Spring, and be not kept too long, the extract, powder, or decoction, made from it are excellent remedies. Dr. Smith does not think that the extractive substance called *filicine*, or *filicic acid*, possesses any anthelmintic properties. Assafetida, garlic, onions, camphor, Geoffreya, and Kamala, are described, as is also Kousso, which Dr. Smith thinks inferior in its action to Kamala, because the former brings the worm away in pieces, and may leave the head in the intestines. Mechanical irritants—such as cowhage—he looks on as exploded, and approves highly of the bark of the root of the mulberry tree. Musenna, nitrate of silver, panna, papaya, pomegranate, pumpkin, and salt, are mentioned as useful agents, particularly the three last-mentioned; and to santonine he devotes more than usual attention. The principal of a series of salts—santonates—is the santonate of soda. It may be given in doses of from five to eight grains, for adults, and from two to four grains, for children, with very good results. Dr. Smith thinks very highly of it, and, referring to a paper of his, in the *Medical Times and Gazette* for 1862, observes:—

"The results which I have observed, both in my published and unpublished cases, incline me to the opinion that santonine is one of the most perfect anthelmintics which we at present possess, seeing that it combines the advantage of smallness of bulk, as regards the dose in which it is taken, and of absence of unpleasant taste, or serious complications, with considerable certainty of action. The high price which santonine commands unfortunately leads to great and frequent adulterations of

this drug, to which I believe that the disappointment, complained of by many in the results procured by the administration of santonine, is chiefly due."

Saoria, spigelia marilandico, sulphur, and tatzé are touched on; turpentine is considered very efficacious, and one of our best agents, were it not for the distressing complications often produced by it. These complications, in our opinion, may be mostly avoided, especially in *children*, by giving *small* doses—from fifteen to thirty drops—in combination with castor oil. Indeed, from the readiness with which this may be had, and administered, we have always found it to be a most useful servant.

Varec, or Corsican moss, is the last drug in this series; and the glossary of terms, mostly Greek derivatives, winds up this book.

The glossary is very useful; indeed without it the book would be almost incomprehensible to all but those skilled in the least-known branches of natural history. A chart of the various orders, genera, species, and particular entozoa, would be a very desirable addition to the work, as it would enable the reader to see, at a glance, the genesis or genealogical tree of these wonderful beings which live in our life, and make us, even in our most vigorous and healthy moments, the subjects of slow and crumbling decay.

We commend this book to the notice of the physician, the pathologist, and the student of natural history. Each and all will find in it congenial studies and records of useful facts.

Report of Proceedings at an International Congress held at the Crystal Palace, Sydenham, August, 1862, *to "Discuss the General Subject of Cruelty to Animals, and especially Vivisection and other Operations upon Living Animals, for the Purpose of Instruction in Surgery."* Ordered, by the Royal Society for the Prevention of Cruelty to Animals, to be Printed. London. Pp. 55.

More than a year has elapsed since the International Congress, whose report we have before us, met at Sydenham; and though a long time passed before the report of its proceedings was published, we have had it some time in hands, and have read it with all the attention which is merited by the importance of the subject of

which it treats. We cannot say that we have found in it anything that is new, or anything which is calculated to alter the view of vivisection taken, as we believe, by the majority of intelligent medical men. That view cannot, we think, be more truthfully or plainly set forth than in the words of Professor Sharpey, in his address, lately delivered to the British Medical Association:—

"Let us affirm," says this distinguished physiologist, "unreservedly that the sacrifice of animal life or the infliction of pain, unless with a view to some commensurately useful result, is utterly indefensible." "But," he adds, "tried by this test, I believe the majority of experimenters will be pronounced free from censure."

Many well-meaning persons, as the report before us proves, permit themselves to indulge in declamation against experiments on animals, which they denounce indiscriminately under the opprobrious name of vivisection—and they designate as cruel, barbarous, and inhuman persons who undertake such experiments; nay, they even assert that the records of the past cannot show that any commensurately useful result has followed from this sacrifice of animal life and this infliction of pain. This is, however, simply the wild assertion of the ignorant, as may be readily proved by a great multitude of examples. Let us look, for instance, to that part of surgery which deals with so every-day an occurrence as hemorrhage. Let us briefly trace its history. The application of ligatures to arteries as a means of stopping bleeding was first adopted in the sixteenth century; previous to this time surgeons had no other means of stemming the flow of blood, after the amputation of a limb for instance, than by scorching over the raw and bleeding wound with a red-hot iron, or by plunging it into boiling pitch, or by applying strong potential cauteries to its surface With laudable efforts to diminish the fearful severities of their practice they exerted their ingenuity in devising, as it were, refinements upon these necessitous cruelties. Thus, Hildanus, the patriarch of German surgery, amputated the limbs of his patients with red-hot knives, in order that he might divide the flesh and sear the vessels up at the same time. "Without," writes Bell, "reading the books of these old surgeons, it is not possible to imagine the horrors of the cautery. The horror of the patient and his ungovernable cries, the hurry of the operators and assistants, the sparkling of the irons, and the hissing of the blood against them, must have made terrible scenes, and surgery must have been, in those days, a horrid trade." Operations were only undertaken in the most terrible cases;

Few, if any, recovered. How is it now? Quickly over, and with comparative safety; with little loss of blood, and almost no pain; the patient often cannot believe that the operation which has been completed, is as yet commenced. Equally great, or even greater, are the improvements in surgery, which deal with injuries and diseases of arteries. How large a share experimental physiology has had in bringing about these triumphant results it is unnecessary to detail; yet the whole history of the question, from the time when Ambroise Paré substituted the ligature of arteries for the cautery to the crowning discovery of the anesthetic power of chloroform, must be admitted by any candid person, acquainted with the subject, to be an unanswerable refutation of the assertion that experimentation on animals has not conferred great and lasting blessings on mankind. Neither do we think that the truly kind-hearted and humane will designate as cruel, barbarous, or inhuman, those who have contributed, even a little, to these ends. There are, indeed, many persons, who are not fitted by nature for investigations in experimental physiology, or who could not perform surgical operations, and some of these persons lay the flattering unction to their souls that they are of a more refined and delicate organization than their fellow mortals—that they are formed—

"Arte benignâ et meliore luto."

But if the feeling which actuates them be analyzed, it turns out to be in reality a form of selfishness. Most men shrink from witnessing sorrow or suffering because it is painful to themselves to do so; it is only the person who is in earnest in his desire to comfort and relieve who will force himself to get the better of this feeling. But it is argued that experimenting on animals is a practice calculated to blunt the feelings and harden the nature of those who engage in them. We confess this is not our experience. We could give the names of persons, well known to many of our readers, known as persons of the kindliest natures, who have not hesitated to have recourse to this method of investigation. We have known persons capable of submitting themselves to very painful experiments. We could name an individual, well skilled in experimental researches, who allowed his own veins to be opened, and his own blood transfused from them into a person sinking from loss of blood. Yet he did not sell his blood for a great price—it was given to a poor person in an hospital. Among those whose characters are still well remembered may be mentioned such men as John Hunter,

Sir Astley Cooper, Marshall Hall, Sir Benjamin Brodie, Robert Todd, in proof that great refinement, high mental culture, warm and generous sympathies are not incompatible with an earnest desire to benefit mankind, through physiology, prosecuted after the experimental method.

But, it will be said by some, we do not deny that valuable results have been obtained by experimental physiologists; nor do we assert that among their number great and good men are not to be found. We are convinced, they say, that painful experiments are often undertaken in order to try to establish facts of little moment, and the mere repetition of experiments we take to be wanton cruelty. Now, as to the first, few will be found to agree as to the value of the facts, and hence there must arise difference of opinion as to the justifiability of the experiment. For example, a person who is medically uninstructed will believe that the knowledge of the fact of the dilatation of the blood vessels in the ear of a rabbit is not worth the pain caused in a division of the sympathetic nerve; he will pronounce such an operation unjustifiable, and will heap opprobrious epithets upon the perpetrator of such an outrage; others will regard this fact as one of great value—one of vast practical importance, one calculated to throw a flood of light on a great number of morbid phenomena; one, in fact, of the most brilliant discoveries of modern physiology; eminently suggestive, full of meaning, and in the highest degree likely to prove beneficial to mankind; a fact, in short, which it is so desirable to impress forcibly on the memory that it may, and ought to be, repeated. Some one will say, why repeat them? Is not the statement of the discoverer enough? As a matter of fact, it is not. Sir Charles Bell's great discovery was not accepted until Magendie and Johannes Müller had repeatedly experimented on the subject. One hundred years after Ambroise Paré was dead cauteries were used in the Hôtel Dieu, in Paris, for the stoppage of bleeding after amputation. Had experimental physiologists shown in the schools the application of the ligature mankind would have been saved, for one hundred years, the torment of the burning iron. For our part, we condemn as strongly as any the repetition of experiments concerning matters which are to be regarded as established truths, but in questions still *sub judice* the case is different.

Some one may observe that he has been assured by medical men that few discoveries of practical value have followed from experiments on animals. We have heard medical men say so,

and in the report before us the assertion is reiterated. Such persons are, in truth, not very unlike M. Jourdain when he talked prose without knowing it. They daily profit by the knowledge gained by experimental inquirers without knowing it. How many excellent and skilful practitioners are there, capable of making a most accurate diagnosis in heart disease, who could not detail a single one of the experiments by which our knowledge of the causes of the heart's sounds has been obtained—how many surgeons who could adroitly tie the femoral artery have never read the experiments of Harvey or Hunter, of Béclard or Jones. Then, again, it should be remembered that different individuals cannot be expected to agree in an exact appreciation of the importance of the problem to attempt the solution of which experiments may be undertaken. The position of each person will give it a different value in his eyes. Thus, for example, the person who has perhaps never heard of the convulsions of childhood, will consider one who undertakes experiments in the hope of throwing light on this affection much as he would an angler who plays a salmon on his line. The medical man who is familiar with the complaint, and has an earnest desire to grapple with a malady so formidable will appreciate very highly any physiological researches tending to extend, even to a small degree, his knowledge of the disease; while the mother, who, not trusting it in the hands of a stranger, watches her baby as it lies upon her lap, and with a power of observation, by experience rendered painfully acute, perceives the movements of the lips, the twitching of the eye, the pallor, and subsequent lividity of the face, the restless motion of the head, and helpless cry that usher in the general convulsion, will possibly think that true humanity *requires*, in order to make even one step towards unravelling the vast entanglement in which the mysterious phenomena of this disease are involved, that many animals shall be sacrificed.

It has been said—at least do not undertake your experiment until you are sure that your result will be one of sufficient value to justify it; in other words, do not get into the water until you know how to swim. The true lover of science will not sit shivering on the bank—he will plunge in, not waiting until what some people call the practical value of the result is first made clear to him. He will be led on by the sure and certain hope that the discovery of scientific truth will sooner or later redound to the glory of God and the benefit of mankind. He will remember (and the history of

science records many such examples) that when experimental physiology made the red ant (*formica rufa*) yield formic acid to Gehlen; and when, not many years back, Soubeiran, Liebig, and Dumas, engaged in those experiments by which the composition of chloroform was discovered, their sole object was the investigation of a point in philosophical chemistry. They laboured for the pure love and extension of knowledge. All the world knows how their labours have been rewarded. So far as animals are concerned it may be said—

"'Tis use alone that sanctifies experiment."

Yet it is certain that in our blindness the usefulness is often-times long hidden from our eyes, and the earnest philosopher must be content to work long and patiently without, perhaps, seeing in his day any of the fruits of his toil. Galvani and Volta, when experimenting on frogs, little dreamed that their discoveries would yet be so developed as to bind together the remotest parts of the earth by telegraph wires.

Some persons, who pretend to stand forth as the defenders of experiment, say, how, after all, are experimental physiologists worse than the gourmand who takes the living oyster from his "pearly bed"—than the naturalist who empales the living insect on a pin, or follows a bird, gun in hand, all day over a hill side, to get its skin for his museum; or than he who hunts, or fishes, or shoots, or crops a terriers ears or tail. For our part, we repudiate altogether such an argument, if argument such recrimination can be called. The experimental physiologist takes a far higher and nobler position, he can point in every direction to great results achieved, and in these it is that his justification lies.

Galbraith and Haughton's Scientific Manuals; Experimental and Natural. Science Series. Manual of the Metalloids. By JAMES APJOHN, M.D., F.R.S., M.R.I.A.; Professor of Chemistry in the University of Dublin. London: Longman, Green, Longman, Roberts, and Green. 1864. Fcap. 8vo, pp. 596.

FOR some years past our scientific world has eagerly looked forward to the appearance of the manuals that constitute the series appearing under the sanction of Professors Galbraith and Haughton,

satisfied that in each production they would meet with treatises exhaustive of their respective subjects. Such being the case, our readers may well imagine how high our anticipations were when informed that the next manual was to be from the pen of no less distinguished a personage than the gentleman who so worthily fills the chair of chemistry in the University of Dublin. We had long been profoundly impressed with the extent and accuracy of his knowledge of chemistry; we had been thoroughly familiar with the fact of his being blessed with the rare gift of being able to convey to others with facility his own information on the subject. We use the term "rare gift" advisedly, and as valuable is it as it is rare—for how barren is that knowledge which lies buried in its owner's bosom, from a lack of the gift of communicating it to others! "Scire tuum nihil est, nisi te scire hoc sciat alter;" and how can that other know it, if the gift of the power of imparting it be denied us? With such impression, then, we came with exalted anticipations, to examine this manual of the metalloids, and are happy to have it in our power at once to state that our expectations have not been disappointed.

Professor Apjohn has divided his work into an introduction—six chapters—and an appendix. The introduction, comprising some 106 pages, contains much valuable information for the student; in it the laws of combination, equivalent numbers, atomic weights, chemical notation and nomenclature, relations of atomic weights, law of volumes, isomerism, isomorphism, dimorphism, reaction of bodies on each other, are discussed in lucid, though brief terms; and in the subsequent chapters the various metalloids, with their mutual combinations, are ably considered; admirable wood-cuts illustrate the various operations described, and the several decompositions are not only enunciated in words, but are also succinctly set forth in equations. In the appendix we find observations on the analysis of gases, hydrometers, weights, and liquid measures, standard pressure and temperature, relations to each other of thermometric scales, and tension of aqueous vapour.

In all these several sections we find Professor Apjohn disposing of his subject in a most masterly manner, entering fully into every detail, but doing so in a style so simple and so clear as to remove every possible difficulty from the path of the student. Where all else is so admirable it may appear invidious to take exception to one particular, and indeed we do it with great misgiving, inasmuch as when we differ from so competent an authority we fear being

ourselves the party at fault; still we do look with disapproval on an innovation introduced by the learned author into his nomenclature—we allude to the change he has thought proper to adopt in the names of the salts of the alkalies and alkaline earths; for instance, carbonate of soda, is termed carbonate of sodium; bicarbonate of potassa, bicarbonate of potassium, &c., &c. Now, hitherto soda has been understood to represent the oxide of the metal sodium, the very form in which it unites with the ox-acid; and so on with potassa, lithia, magnesia, &c., &c.; and were this impression generally entertained and acted up to, we would arrive at a nomenclature to a certain extent expressive of the composition of the salt. It would have pleased us more had Dr. Apjohn directed his influence to extend the nomenclature of our compounds on this principle, instead of exerting it to substitute for it a nomenclature that has nothing but its uniformity to recommend it. This, however, is too unimportant a subject for us to dwell upon; and, as we have said before, we fear for us to differ from him is to place ourselves in the wrong position.

From the hasty sketch we have given of Professor Apjohn's work our readers must perceive that it treats but of one grand division of chemistry—two others remain untouched—the history of the metals and of organic chemistry. From the manner in which that of the metalloids has been handled, we confess that we look anxiously forward to the completion of his task, and that also at an early date; possessed of knowledge, and of the gift of imparting it, he owes it to his generation speedily to complete his work for their improvement; and with this object in view, we beg to remind him of the sentiment of the sage—"Si cum hac exceptione detur sapientia, ut illam inclusam teneam, nec enunciem, rejiciam."

Chemistry. By WILLIAM THOMAS BRANDE, and ALFRED SWAINE TAYLOR. London: John W. Davies. Foolscap, pp. 892.

IN the preface to this new work on chemistry it is, at the outset, confessed that the student has already a large selection of books for his guidance, from the *first step* of Mr. Galloway, containing about ninety pages, to the as yet incompleted *Handbook* of M. Gmelin, consisting, up to this date, of fourteen octavo volumes, and covering some eight thousand pages, intermediate between which are

innumerable manuals, systems, &c., varying in size, extent, and value; and yet have Messrs. Brande and Taylor thought it their duty to add one other treatise to the number; and hence this present volume. The reasons assigned are these:—

"Our intention in the preparation of this volume has been, not to furnish a Treatise on the Science, but to provide the student, and general reader, with a plain introduction to the subject. With ample materials at our disposal to produce two volumes in place of one, we have studiously endeavoured to compress within these pages, a selection of the more important facts and doctrines of Modern Chemistry. We have adopted for the explanation of these facts, that simple chemical language which has found acceptance in the Schools and Colleges of Great Britain, France, and Germany, as well as in the best treatises on the Science.

"In addition to the general properties of bodies, we have attached to the description of each substance, a summary of its most important characters, with an account of the special tests required for its detection. The student will thus have in this book a Manual of PRACTICAL CHEMISTRY. As an adjunct to this branch of the Science, the subject of PRACTICAL TOXICOLOGY has been introduced in reference to the most important *poisons*, and the processes for their detection. We have also treated, as fully as our space would permit, the chemical principles on which PHOTOGRAPHY is based, and have given some practical rules for the guidance of those who wish to apply their chemical knowledge to this interesting art.

"Having been engaged in teaching Chemistry in this Metropolis, the one for a period of forty, and the other for a period of thirty years, it has appeared to us that, in spite of the number of books already existing, there was room for an additional volume, which should be specially adapted for the use of students. In preparing such a volume for the press, we have endeavoured to bear in mind, that a student in the present day has much to learn, and but a short time at his disposal for the acquisition of this learning. An eminent writer has truly observed, that the whole circle of the Sciences is required to comprehend a single particle of matter; but *ars longa, vita brevis*. If a Medical Student has before him only a few years for acquiring a knowledge of at least eight sciences, the efforts of those who contribute to the literature of these sciences should be directed to the elucidation of the most important facts and principles, omitting altogether those details which are either of a controversial nature, or are not yet established on a satisfactory basis. In reference to this book, it may be considered by some, that we have assigned too little, and by others, too much, space to our subject. This, however, is a question of opinion on which persons may reasonably differ. We have taken that which seemed to us to be the proper course; and we trust we have so dealt with the principles and practice of CHEMISTRY, that the contents

of this book, will prove useful to the general, as well as to the professional reader."

It now becomes our duty to see how far Messrs. Brande and Taylor have acquitted themselves of their self-imposed task, and, *in limine*, we are disposed to confess that the work is a good treatise on chemistry; but in the present state of chemical science, it appears almost an impossibility to produce a bad work on the subject. Any one possessed of even a superficial knowledge of chemistry, a fair library, and a good pair of scissors, should be able to reproduce a work on chemistry of average character; but from gentlemen of the high scientific character of Messrs. Brande and Taylor we look for greater results. The work should contain as perfect a summary of the science as is to be found in literature; and should, in addition, be free from the stereotyped errors that are found to prevail in many of our manuals. In the present days of competitive examinations, into so many of which a competent knowledge of chemistry enters as a most important element, the student should find in the work which he selects as his class book a full and accurate explanation of the various reactions that ensue in our several chemical experiments. Our readers shall judge how far Messrs. Brande and Taylor have acquitted themselves of this obligation by a few examples; for instance, this is the explanation of the physical and chemical reactions that attend on the projection of a portion of potassium into water:—

"When the metal is thrown upon water, or even upon ice, it inflames, with the evolution of hydrogen, and burns with a violet-coloured flame, producing a small globule of fused potash, which, in combining with water, produces so much heat as to cause a slight explosion."

The remarkable gyration that occurs during this curious phenomenon is not alluded to, much less explained. The cause of the flame is incorrectly stated; and, although the colour of the flame is correctly described, yet it is not sufficiently explanatorily accounted for. It is true that the account usually adopted in elementary treatises is given here by our authors; but we look for more in a work representing the actual condition of chemical science at the present day.

If we turn to the description of the process for obtaining chloroform, we find it as unsatisfactory as the preceding, but not as incorrect, for the simple reason that no explanation whatsoever is vouchsafed of the reactions that ensue in the manufacture of this

very important chemical agent; for the few words that are devoted to this purpose cannot be looked upon in such light:—

"Chloroform may be procured by distilling chloral with lime and water, or with solution of potash. It is more readily obtained by distilling, in a capacious retort, a mixture of 1 part of alcohol with 24 parts of water and 6 parts of dry chloride of lime. The temperature should not exceed 180°. The distillate consists of water and chloroform, and the process is arrested when about two parts have passed over. The chloroform is in the lowest stratum. It is separated from the water, shaken with sulphuric acid to purify it, and rectified by a second distillation.

"Chloroform is a colourless, transparent, heavy, neutral liquid, having, when its vapour is diluted, a pleasant odour resembling that of apples. Its sp. gr., when pure, is 1·5: it boils at 140°, and the density of its vapour is 4·2. It is not inflammable. When its vapour is respired, more or less diluted with air, it soon induces insensibility, in the same way as, but more rapidly and effectually than ether-vapour; hence its use in the performance of painful operations, as originally suggested by Dr. Simpson, of Edinburgh. (*Pharm. Journ.* vii. 227 and 313.) When a few drops of chloroform are placed upon the hand, it speedily evaporates, and produces a great degree of cold. When poured upon water, the greater part of the liquid sinks in globules, which are of a milk-white appearance if the chloroform is not perfectly free from alcohol. In addition to chloroform, the products of this reaction are formate of lime, chloride of calcium, and water. Chloroform is so little soluble in water, that three drops added to nine ounces of distilled water, and well shaken, did not wholly disappear, although they imparted a strong odour to the liquid. With alcohol and ether it readily forms transparent solutions, which burn with a yellow smoky flame. Water added to the alcoholic solution causes a separation of the chloroform, which falls to the bottom of the vessel."

Now at first sight there appears to be no explanation of the process intended; and indeed Messrs. Brande and Taylor should feel indebted to us for pointing out to the inexperienced pupil that the sentence—"In addition to chloroform the products of this reaction are formate of lime, chloride of calcium, and water," refers to the first paragraph, and not to the sentence immediately preceding it, in which the behaviour of chloroform containing alcohol is described on being added to water.

Again, let us turn to the observations on valeric acid. Our authors content themselves with the following remarks:—

"Valeric Acid ($HO,C_{10}H_9O_3$).—The volatile oil, obtained by distilling the root of *valerian* with water, is a mixture of hydrocarbon$=C_{10}H_3$,

with an oxygenated oil convertible into valeric acid. This acid has also been obtained from angelica-root, and from the berries and bark of the Guelder-rose (*Viburnum opulus*): it is an occasional product of the oxidation of fatty bodies, and is artificially produced by the action of oxidizing agents on amylic alcohol (*fusel oil*). It is a colourless liquid, smelling strongly of valerian, and of a sour pungent taste. It boils at 270°, and the density of its vapour is 3·55. It is soluble in about 30 parts of water, but may contain 20 per cent. of water without losing its oily appearance. The *Valerates*, when pure and dry, are nearly inodorous, but generally have a valerianic odour and sweetish taste: they smell strongly of valerian when moistened with a dilute acid; some of them have been used midicinally. Acted upon by chlorine, valeric acid furnishes two compounds in which 3 and 4 atoms of its hydrogen are replaced by chlorine, *chlorovalerisic* and *chlorovalerosic* acids; and by the protracted action of nitric acid, a part of it is converted into *nitrovaleric acid*=$HO,C_{10}H_8O_7N$."

Now, with the greatest respect, we venture to entertain the opinion that nothing could be balder or more unsatisfactory than the foregoing:—The reactions that ensue on the addition of oxidizing agents to fusel oil are amongst the most interesting in chemistry, and have furnished us with one other example of the important uses to which a knowledge of this science can be applied in producing, at comparatively speaking, small cost, articles identical in every respect with those hitherto produced at great expense.

Amongst the subjects treated by Messrs. Brande and Taylor one not hitherto generally discussed in elementary treatises on chemistry, is that of photography. The thirty-sixth chapter, consisting of some fifteen pages, is devoted to the consideration of this subject, and gives a very fair insight into its principles; and we are inclined to agree with the authors in their concluding sentence, for if ever there was an application of chemistry, where the results procured present so varying an appearance, it is this. In no other are the results so capricious; in no other does experience seem to be so all important:—

"There are many points connected with the art of photography which can be acquired only by long practice. The causes of failure in every stage of the process are numerous, and are sometimes difficult of explanation."

In conclusion, we can only repeat our former remarks, that whilst not condemning Messrs. Brande and Taylor's work, still we look upon it as a disappointing one, from authors of their experience and

standing. We looked for an unexceptionable production; such the work before us is not; and, *toto cœlo*, we differ with them on one important point—to wit, the non-advisability of introducing explanatory wood-cuts. Their reasons are these:—

"We have followed the example of the late Dr. Turner, and other writers of repute, in excluding pictorial illustrations. Students of the present day are well acquainted with the shapes of air-pumps, gas-holders, flasks, and retorts. Those who require this aid to their studies will find, in the illustrated catalogues of dealers in Chemicals, more correct representations of apparatus than those which are commonly met with in treatises on Chemistry."

Now, we do not accept the proposition, that students of the present day are well acquainted with the shapes of air-pumps, flasks, &c. We know the contrary to be the fact. Nor can we accept as a sufficient excuse for their non-appearance that such illustrations are to be found in the catalogues of dealers in chemicals. If students are to have them they should not be referred to such sources for information; and long experience has convinced us of their utility in conveying instruction to those who, from any cause, may not have had an opportunity of becoming familiar with their appearance in the lecture theatre; whilst even in the case of the industrious student, who has diligently availed himself of such opportunities, they are of vast use in refreshing his memory, and conveying more distinctly to the mind, through the eye, by one wood-cut, what pages of printed matter may fail in doing.

On the Immediate Treatment of Stricture of the Urethra by the Employment of the Stricture Dilator. By Bernard Holt. Second Edition. London: John Churchill. 1861. 8vo, pp. 110.

In our Number for Nov., 1862, we had the pleasure of submitting for our readers consideration the plan advocated by Mr. Holt for the treatment of stricture, in the first edition of the work—the second edition of which now claims our attention. At that time we augured favourably of this bold innovation in the surgical treatment of a disease that at times has proved equally the curse of the patient and the plague of his attendant; and, we are happy now to find, from a perusal of this second edition of Mr. Holt's work, that the results far exceed the favourable anticipations in which, at that

time, we indulged. Since the appearance of Mr. Holt's first observations on the subject, he has been induced, still further, to improve his instrument, and to vindicate it from one charge which was alleged against its safe employment. In his original instrument no provision was made for ascertaining, with certainty, whether the instrument was really in the bladder or not—the entire instrument, when first introduced, presenting no outlet for the urine. In his new instrument Mr. Holt has had the stilet made hollow, consequently, when the instrument reaches the bladder the urine can trickle out through the stilet, which acts as a catheter, and thus all grounds for doubt are removed, and the operator can complete his operation without any further misgiving. The number of successful cases placed on record by Mr. Holt, as well as the adoption by numerous surgeons of high standing, both in England and Ireland, of his principle of treating stricture, leave it no longer a question for discussion whether or not the "immediate plan" has established for itself a position amongst the recognized operations in surgery. Mr. Holt has good grounds for feeling proud of his achievement; and, we think, has fair reason to complain that his claims were not recognized by the French tribunal in the recent allocation of the D'Argenteuil fund. However, as our neighbours have it, in his case as that of others, "le bon temps viendra."

Under ordinary circumstances we should content ourselves with the announcement of the appearance of a *second* edition of his work, the fact itself being *prima facie* evidence of the success of the first; but when a plan of treatment so revolutionary in its character has been introduced in a class of disease so important in its relations to humanity, we conceive it to be but our duty, again, most earnestly to direct our readers attention and most serious consideration to its details, to impress upon them the importance of weighing what can be advanced in its favour in a spirit thoroughly devoid of prejudice, and in their own best and truest interests to enforce upon them the truth of the axiom, "Magna est veritas et prævalebit;" in addition to which considerations the frank spirit in which Mr. Holt acknowledges the labours and services of Mr. Macnamara, in acting as the pioneer of his operation into our Dublin hospitals, and of the ingenuity which Mr. P. C. Smyly has displayed in modifying and improving the instruments for immediate dilatation, all conspire to lay our Irish school under a debt of obligation which they should only be too glad to repay, by adopting as their motto—"Si quid novisti rectius istis, candidus imperti, si non, his utere mecum."

A Manual of Minor Surgery By JOHN H. PACKARD, M.D.; Demonstrator of Anatomy in the University of Pennsylvania; one of the Surgeons to the West Philadelphia Military Hospital, &c., &c. With 145 Illustrations. Authorized and adopted by the Surgeon-General of the United-States Army for the use of Surgeons in the Field and General Hospitals. Philadelphia: Lippincott and Co. 1863. Small 8vo, pp. 228.

THE above is the title of one of those excellent works which occasionally emanate from the American Press. Although it is small, and professes to be a work on minor surgery, the author oversteps the bounds, and treats us to something more, in the shape of principles and pathology; a great deal of the subject matter however we are familiar with from Bourgery's French work, which was translated by American writers. One great advantage which this little work possesses is the abundance of good plates which are distributed through it. From what we know of the *genus* "student" such a book is only likely to take when it is simplified by the addition of engravings.

A considerable space is devoted to the treatment of fractures and dislocations—in fact, more than is found in many of the complete surgical works of the day, which profess to give exhaustive accounts of the different diseases and injuries. The writer delights in the enumeration and description of complex, and sometimes heavy, apparatus for the treatment of these accidents. This appears to be a common fault with American surgical writers; each thinks it necessary to invent some new mechanical appliance for a particular fracture. In the plate of Dupuytren's splint for fracture of the fibula, there is a close approach to the usual mistake. The great French surgeon always applied this splint by two bandages, the lower never extending above the malleoli, the upper bandage confined to the upper third of the leg; whereas, as applied in the modern fashion, evenly from the foot to the knee, it has the effect of obliterating the inter-osseous space.

Like most Transatlantic surgeons, the author thinks ether preferable to chloroform. However, he is candid enough to admit that in military surgery, where a rapid anesthetic is required, chloroform has been very highly spoken of by surgeons who have used it during the present war. We append the formula for soluble glass, more for its interest as a scientific curiosity than for

its practical value as a substitute for collodion in the treatment of incised wounds:—

"*Water-glass* is the name given to an article lately proposed by Küchenmeister, as a partial substitute for collodion. It is made by melting together ten parts of potassa, fifteen of powdered quartz, and one of charcoal, forming a blackish-grey mass; this is dissolved in five parts of water, and the solution evaporated to a semi-fluid consistence. The substance thus formed has an alkaline reaction, and dries slowly, forming an impermeable coating to wounds, swellings, and skin diseases. On account of its alkaline reaction, it is particularly recommended for the stings of insects, snake-bites, &c."

On the whole the book is well worth the attention not alone of students but also of practitioners. It is thought so highly of in the United-States that it has been adopted by the medical department of the army. The plates are excellent, and serve as a good advertisement for Mr. Kolbe, the instrument-maker of Philadelphia, whose name is ostentatiously displayed in every plate where surgical instruments or appliances are represented.

Health in the Tropics. By W. J. MOORE, Bombay Medical Service. London: Churchill. 8vo, pp. 318.

THE writer, in his preface, quotes the authority of Ranald Martin as to the necessity for a sanitary manual, containing, in a clear and concise form, the great truths and principles of hygiene and sanitary art, being published, "by authority," to serve as a guide to both military and medical officers.

We cannot say that the book, now before us, fulfils the requisite conditions: while it undeniably contains an immense amount of information, accumulated by extensive and evidently careful reading, it is neither clear nor concise. It is unfortunate that the author should have re-appeared in print so soon after the publication of his former book on the *Diseases of India*, which was not unfavourably reviewed in this Journal,[a] and which contained, in a more condensed form, almost all the information on sanitary points which he lays before us in the present book—of a larger and more pretending character.

The numerous references to extracts from other writers, bear ample testimony to the industry and application of the author, but

[a] Vol. xxxiv., p. 113, August, 1862.

the selection of authorities is rather indiscriminate; and to him who has studied *Pickford's Hygiene*—from which many of the most useful parts of the present work are taken, and which, to our mind, quite fulfils the required conditions of being "clear and concise," and which includes both tropical and temperate hygiene—the book before us will not supply much additional information.

The Anatomy of the Parts Concerned in Femoral Rupture. By George Callender, Assistant Surgeon to, and Demonstrator of Anatomy at, St. Bartholomew's Hospital. pp. 51. London: John Churchill and Sons. 1863.

Of latter days it is but too obvious that "specialism" has become the fashion in medical study, and, as a necessary consequence, in medical literature also. The present is no fitting occasion whereupon to discuss at large the broad question of good or ill results, from this aspect of medical affairs; but we must take it for granted, that in the long run benefit will accrue to the many from the special labours of the few who devote themselves thereto in good heart and faith. Nevertheless, it is impossible not to feel disappointed oftentimes at the poverty and inaccuracy of the productions of authors who, confining their writings to special subjects, might be expected to afford fresh information and new light to those whose multifarious occupations deny them the possibility of such researches on medical and surgical topics.

We confess that such have been our feelings, upon carefully reading over Mr. Callender's essay on *The Anatomy of the Parts Concerned in Femoral Rupture.* The subject is well defined—full of interest and matter, and we are surprised that Mr. Callender, whose notes alone exhibit great learning and laborious research into the literature of his subject, has not succeeded in making his descriptions more faithful and intelligible, his deductions more practical, and his learning more exhaustive of the highly interesting disease he has chosen for a special essay.

We are at a loss to think for what class of readers Mr. Callender intends his book. For the student it is, in our judgment, wholly unfit, being deficient in clearness of arrangement, perspicuity of language, and suitable guidance in the conduct of the dissections. For the anatomical teacher it is useless, because it falls decidedly short of the standard he requires. For the surgeon it is compara-

tively worthless, inasmuch as the mass of practical deductions which mostly interest him are simply ignored.

We do not enter into a detailed review, because it would require an essay longer than the one under consideration to carry out at length our various criticisms. We shall satisfy ourselves by pointing out a few of the most salient imperfections. In the first place, we think the language is often incorrect in reference to anatomical relation. For example—let us take the middle paragraph on page fourteen, which refers to the outer division of the portion of the external oblique tendon inserted into the os pubis. The text runs as follows, and we have italicised the words we consider erroneous:—

"The outer division, thick and strong as compared with the preceding, is attached to the spinous process of the os pubis, and thence inclining backwards, is fixed for some distance to the ilio-pubic ridge. By this twist backwards and *inwards* (*?*) the tendon fills up the angle which would otherwise have been left between its lower border and the ilio-pubic ridge. Broad and strong anteriorly, and in the upright position of the body nearly horizontal in its direction, this portion ends in a thin but well defined *posterior* (*?*) border, about one inch from the outer side of the pubic spine."

Accepting as universally recognized the usual anatomical nomenclature, we appeal to Mr. Callender to inform us if the expansion from the pubic attachment of Poupart's ligament, which fills the angle between the latter and the horizontal ramus of the pubis, does not pass backwards and *outwards*, and not *inwards*, as stated in the text. Furthermore we would ask him, if the free border of that expansion does not look *outwards* and a little forwards, rather than backwards, as implied in the text by calling it the *posterior* border. We will not multiply such examples of verbal inaccuracy although they are numerous throughout the essay.

Mr. Callender's notes are voluminous and learned—so much so, that we expected to find them exhaustive of the literature of the subject. However, strange to say, they are far otherwise. We shall notice but a single omission. Throughout the entire book, text and notes included, we find no allusion to the writings on femoral hernia of the late Mr. Abraham Colles, of Dublin. Nevertheless, his paper on the subject, published in his *Surgical Anatomy*, about the commencement of the present century, is probably one of the most original and masterly in existence, and is deemed worthy of quotation by the most eminent and practical of the continental writers upon anatomy.

On the Arcus Senilis, or Fatty Degeneration of the Cornea. By Edwin Canton, President of the Medical Society of London, &c., &c. London: Hardwicke, 1863. pp. 228.

B. D. Mauchart, who wrote a dissertation, *De Maculis Corneæ Earumque Operatione Chirurgica Apotripsi*, which was published in 1743, enumerates and illustrates no less than six different kinds of spots which are found to occur on the human cornea—caligo, nephelium, aigis, paralampsis, leucoma, cicatrix, and gerontoxon. He expresses his great surprise that so many celebrated and keen-eyed oculists, not excepting Woolhouse himself, have overlooked this latter spot, which is no less conspicuous than common in elderly people. In Taylor's book alone does he find any trace of it. Taylor's words are—[a] "Il se trouve quelquefois une petite opacité égale sur un des côtés de la cornée en forme d'arc, qui est plus ou moins grande et dont la couleur est jaûnatre et égale."—Chap. xxxvii., par. 88.

The "celebrated and keen-eyed" Woolhouse (1686) was one of the surgeons to King James II., and used to insist that cataract consisted in a membrane stretched across the pupil, somewhere either before or behind it, so, perhaps, it is hardly to be wondered at that he did not observe the presence of the arcus senilis. We have never succeeded in obtaining a copy of Woolhouse's treatise to which Mauchart refers; but we know of a Latin translation of it, entitled *Diss. Ophthalm. de Cataractâ et Glaucomate, Contra Systema sic Dictum Novum*, published at Frankfort-on-Maine, in 1719. Woolhouse appears to have gone to France with his royal master shortly after the abdication of the latter, and we presume his treatise, which was in French, was published in Paris.

John Taylor who appears to have been the first to allude to the arcus senilis, was an English surgeon, belonging to Norwich, who lived between 1700 and 1750. His work on the mechanism of the eye, published at Norwich in 1727, was speedily translated into French in 1738, and into German a couple of years afterwards. His treatise on glaucoma and cataract was dedicated to Queen Caroline; he was one of the surgeons to King George II., in 1738, and as one of his first works dates from Norwich, there can

[a] Jean Taylor. Le Méchanisme ou le Nouveau Traité de l'Anatomie du Globe de l'Ocil, &c. Paris, 1738. He died at Paris, having, some years before his death, published his Memoirs, entitled Histoire des Voyages et des Aventures du Chevalier Taylor, Oculiste Pontifical, Impérial, et Royal.

be little doubt but that he belonged to the family of the Taylors of that town, so distinguished for piety and learning.

Mr. Canton, however, in the work which we proceed to review, is in error in asserting that Taylor gives any specific name, still less that of gerontoxon, to this remarkable appearance in the cornea. This name is due to Mauchart, who, after alluding to Taylor's statements, says, "if we were not already overwhelmed with the multitude of names in ophthalmology, and since there is *no old name* at hand, we would coin a new one for this senile speck, and call it gerontoxon—the old man's bow."

On this senile bow Mr. Canton wrote, some time since, in the pages of *The Lancet*, a series of papers, in which he carefully investigated both its history and etiology. This series the author has now collected into the pages of the volume that lies before us, and by so doing, has, we think, conferred a favour on the profession; not but that we think Mr. Canton might sometimes have given us a little more of the history of the arcus senilis, and a little less sometimes of the history of its accompaniments.

We will best inform the readers of the merits of this work by a brief analysis of its contents. The first chapter is devoted to a general and microscopical account of the arcus senilis. As a general rule, this sign of old age does not appear until about the age of fifty; but sometimes it appears at a much earlier period; and again, it is often found wanting in extreme old age. Dr. Furnari[a] says, that in warm climates it appears to occur rather early in life; it seldom is broad enough to impede vision, but sometimes it encroaches on the cornea so much as to leave but a very small clear spot opposite the pupil. For a critical description thereof the reader must consult the volume itself. Contrary to the opinions of Schön and Von Ammon, the occurrence at the same time of an arcus senilis on the lens or capsule must be regarded as extremely rare; and when it does occur it may be looked upon as purely accidental. In numerous cases, however, fatty degeneracy will be found to occur at the same time in many organs of the body, and atheromatous deposits will be also found; regarding, then, the arcus as due to simple atrophy, Dr. His asks, why is it always at the margin of the cornea (which is about the most favourable position for nutrition) that such atrophy should occur? and how does it

[a] Spelled Furnani in the text. We may state, once for all, that the printers (?) are much to blame for the numerous typographical errors that spoil the pages of this volume.

happen that the centre of the cornea should preserve its complete integrity for years? and the only answer to these questions appears to be that of Dr. C. J. B. Williams—that the arcus senilis owes its first position on the upper segment of the cornea to the pressure of the upper eyelid, which, slight as it is, is sufficient to promote the change which results from weakened circulation. In quoting the various opinions which have been advanced by different writers, as to the nature of the arcus, the author divides them into three classes: those who, like Tyrrell, confess they are unable to offer any explanation of it; others, who make statements as strange as incorrect; and a third class, who approach very near the truth by considering it an example of atrophy and degeneration. A long list of these varied opinions is given, and a very little trouble would increase it fourfold; among others, that of Weller, who, though he wrote about 1820, appears to us to have had as correct a notion on the point as any of the writers quoted by Mr. Canton, says—we quote from the French translation by Riester, supplemented by Sichel, and published in 1832:—"Ils ne se montrent presque jamais que chez des sujets âgés, et semblent être le produit d'un acte analogue à celui qui convertet les arterès, les cartilages ete, en substance osseuse."

The chapter on "The Hereditary Occurrence of the Arcus" is a very interesting one; but our space will not permit us to make any extracts. The third chapter is on "The Formation of an Arcus or a Circulus, the Result of Disease or Injury to the Eye." Cases, Mr. Canton says, are not unfrequently seen during life where the vision of one eye has been wholly or partially lost, as a consequence of an injury that happened to the organ many years previously, and atrophy supervening, the cornea is ultimately invaded by fatty degeneration, whereas the other eye continues to remain sound, and remains free from such appearance if the person be under fifty years of age. But when the patient be above fifty, and the arcus senilis commences, then the progress of this form of degeneration in the affected eye will proceed at a much quicker rate than in the uninjured one, and it may even present a complete annulus by the time the latter shows only well-formed arches. The following case is an interesting proof of this:—F. R., a fine old veteran, of eighty-eight years of age, hale and hearty, who served his country through the whole of the Peninsular war, lost his left eye at the taking of Flushing. In this eye there is a well-marked annulus of almost bony consistency; whereas in the right eye the

arcus senilis is not very fully developed, and exists only in the upper half of the cornea.

"The Occasional Non-occurrence of the Arcus in Old Age" is the title of the fourth chapter. As critics, perhaps, we ought to complain a little of the length of this chapter; not that it is by any means tedious, but that a great deal of it is, as we think, but little to the purpose. The account of Coleman, who lived 103 years, and died with but the very slightest traces of the senile zone, is interesting. There are likewise a number of cases given where the age varied from seventy-seven to 100, and where death occurred without an arcus being found. To this list we may add the following, for which we are indebted to the kindness of our friend, Dr. W. Carte, Surgeon to the Royal Hospital, at Kilmainham:—List of old soldiers in whom no trace of an arcus senilis could be discovered (1864):—

70 years of age, . . .	two.
71 to 73 years, . . .	five.
73 „ 75 „	six.
84 „ 85 „	one.

Many of these men served through the Peninsular war, served in Martinique, and other unhealthy climates. The old soldier, aged 84 years, had always been a healthy man; and the great majority of the above men were temperate livers. One of them, however, aged 70 (J. R.), had served for a long time in Ceylon, and never let the glass pass him, though he does not acknowledge that he was a drunkard.

The fifth chapter is an important one. It is on the "Fatty and Calcareous Degeneration of the Costal and Laryngeal Cartilages Associated with Arcus Senilis." The author says:—

"I propose, now, to consider, further, certain other structural lesions, at the same time, present, in the bodies of the aged, illustrative, likewise, of that form of degeneracy which has implicated the cornea;—a degeneracy, indeed, which has, not uncommonly, so involved, at this period of life, the tissues, more or less, generally, as to be considered as characteristic of age in an anatomical, as the consequent enfeeblement of function of these parts is so regarded, in a physiological sense. It is not, of course, here implied that to age, alone, such changes attach; for, disease may, equally, induce them long ere the body has become old (according to years), and, these peculiarities may be displayed in a part singly, or, where with that undermined condition of the health which abiding

disease, so often, engenders, the nutrition of the body fails, an all pervading implication of texture ensues,—it may be, many years, even, before the meridian of life has been attained: Mr. Barlow has well observed:—'Disease anticipates the ravages of time; the young, as to years, became old as to structure.'

"Not only, however, are these changes to be, frequently, traced to the presence of some intractable affection which has attacked, especially, an important viscus, and, entailed, in its continuance, a degenerate state of other parts of the body: for, in comparatively early life, the system may suffer, severely, from the inroads of fatty degeneration, gradually, succeeding to the impairment of the *vis vitæ*, dependent on prolonged mental anxiety, and, distress, induced through the cares, and, vicissitudes to which so many are exposed: or, that continued taxation of the physical energies which is the, not infrequent, lot of some whose bodily stamina is unequal to the protracted exertion,—*degeneracy*, *and*, *death* too often follow, slowly, but, surely, in the track of *wear*, *and*, *tear* of mind, and, body.

. . . . . .

"Ossification of the costal cartilages is, very generally, regarded as one of the attributes of age, and, we are accustomed to consider the extent to which this change has proceeded, as a measure, in some degree, of the years a person shall have attained to. The same observation applies, equally, to this condition of the laryngeal cartilages. It must be borne in mind, however, that such alterations of texture have, not uncommonly, been found to be very tardy in their progress, and calcareous degeneration of these parts is discovered after death, in some remarkable instances of longevity, to have affected the true cartilages to a comparatively small extent, only.

. . . . . .

"With regard to the state of the skeleton of the larynx in the aged, I may, here, mention that I found all the cartilages composing it,—with the exception of the epiglottis,—affected by calcareous degeneration to no greater degree than I have, frequently, seen them to be at the age of fifty, in the instance of a man who died in his hundredth, and, third year, and, who, until the period of his death, (which was due to an accident,) had enjoyed an almost uninterrupted immunity from disease. The viscera in this man were, also, healthy."

The sixth and seventh chapters are devoted to the consideration of the formation of the arcus senilis in the intemperate and those of gouty habit. No cause appears to be more potent in promoting the impairment of nutrition than habitual or oft-recurring intemperance, and hence the various changes almost always found in the heart,

lungs, liver, kidneys, &c., of drunkards. While far from joining in the teetotal crusade, yet it is impossible to deny that an undue use of intoxicating beverages induces, in the great majority of instances, a tendency to fatty degeneration, or, in other words, to a decay of the tissues; and it is also, we think, proven that it often brings with it a premature old age, or, perhaps better, induces in early life all the signs and evidences of old age. Among the old soldiers at Kilmainham, whom we have before alluded to, were several in whom the arcus senilis was apparent, but only occurring in the upper half of the cornea. These were men between the ages of 70 and 80, who had always borne their part in the trials and hardships of life. All of them (fifteen) had seen foreign service, and now suffering from but little save old age, and its attendant colds and coughs—cheerful awhile, they present a kind of middle group between the fourteen alluded to above, who enjoy what may be called a young old age, and those to whom we will now allude, who, though still in life, and enjoying many comforts, yet, having yielded to the temptation of a soldier's life, were in their day hard drinkers. Judging from the well-marked annulus senilis in the eyes of all of them, it must have made its appearance in most of them from the age of fifty or thereabouts. It would be wronging these old soldiers, however, not to mention that many of them have been, years ago, worn down with fevers caught in the West Indies, Africa, and the Cape. Many are still shook with the ague which they first encountered in the Peninsula; and some, again, have been constant martyrs to ophthalmia, first acquired in Egypt. Out of some fifty old men, examined in the Royal Hospital, there was but one who had reached an advanced life with a well-marked annulus senilis, and who, at the same time, had not either suffered more than the usual hardships or been a drunkard. This man was 83 years of age, had never been out of Ireland, and was generally healthy.

In treating of the appearance of the arcus in those of gouty habit, although the author agrees with Dr. Laycock that the arcus is very constantly present in confirmed instances of the gouty diathesis, yet he does not adopt his opinion that, when it happens early in life, it is usually indicative of a full type of the arthritic constitution. Instances of the premature occurrence of the arcus in those who display no diathetic indications of gout, or rheumatism, are found to be too numerous to allow one to do so; but no doubt can be entertained that fatty degeneration of the cornea may co-exist

with the gouty cachexia, even to the extent of marking the eye with a complete and broad zone, and this at an age when the faintest trace only would, as a rule, be perceived.

The eighth, and last, chapter is taken up with the consideration of the etiology of the arcus, and its disappearance under constitutional treatment. Without being able to penetrate the mystery that appears still to hang over the origin of fatty degeneracy, Mr. Canton still thinks he is justified in ascribing its existence to the presence of *debility*. The causes of this debility are many and diversified, and, in numerous instances, extremely difficult to trace. It behoves the practitioner to ascertain the exact source of this condition, or his measures of relief may be wholly ineffectual to ward off that insidious degeneracy that is induced thereby. Hemorrhage, inadequate supply of blood, interrupted glandular secretion, are but a few of the many physical causes that induces this debility. The mental ones of harass, worry, anxiety, hope deferred, and such like, are equally numerous; not that the presence of the arcus senilis is necessarily implied in all such cases, or that it is wanting in all those cases where the vigour of the system would seem to preclude its existence. Nevertheless the author agrees with Mr. Paget, that the arcus seems to be, on the whole, the best indication which has yet been discovered of proneness to an extensive or general fatty degeneration of the tissues. The existence of fatty heart in phthisis, as pointed out by Dr. Stokes, is alluded to, at some length, by the author, who also shows how, in several cases, this state of the heart is indicated by the arcus; but this coincidence does not appear to be sufficiently common to merit more than a casual thought in forming a diagnosis.

In concluding this notice of Mr. Canton's book, we would acknowledge the great labour and research which he therein exhibits. In some places a little prolix, it is never absolutely tiresome. A *resume*, at the end of each chapter, of its contents would be a great addition to the volume; and a carefully compiled index would likewise add greatly to its value. We would also suggest to the author that the substitution of "f" for "s" is a great annoyance to the reader. However pleasing to see this style adopted in a reprint from an old author, we think it very objectionable in a modern work on the arcus senilis.

The Diagnosis and Treatment of Diseases of Women, including the Diagnosis of Pregnancy. Founded on a Course of Lectures delivered at St. Mary's Hospital Medical School. By GRAILY HEWITT, M.D., &c. London: Longmans. 1864. 8vo, pp. 628.

THERE is, perhaps, no class of diseases in the diagnosis and treatment of which more progress has been recently made than in those affecting the organs of generation in women ; and we believe there are none (excluding diseases actually involving life) the due treatment of which is more important, or tends more to establish the character of medical practitioners. Improved means of physical diagnosis have enabled us, within the last few years, to recognize diseases of these organs with much more accuracy than could formerly be obtained. The use of the uterine sound and speculum, of the exploring needle, and of tents for dilating the os uteri—of the stethoscope and of the microscope, has enabled us to connect symptoms with the morbid conditions that caused them, and to devise and apply modes of treatment that relieve women of diseases that were long considered irremediable, and which were productive of great misery, and not seldom attended with fatal results. Uterine deviations, often productive of so much pain, hemorrhage, and other inconveniences, can now be recognized and corrected ; pelvic tumours distinguished and identified ; many forms of hysteria and nervous affections, affecting apparently the most distant organs, can now be traced to their true source in uterine or ovarian disease. The cavity of the uterus can be explored, and internal polypi, the concealed sources of deadly hemorrhage, removed, the patients not even being obliged, as formerly, to incur the risk of fatal purulent poisoning in so doing. The hemorrhage from fibrous tumours can also be made amenable to treatment, and, in many cases, the tumours themselves can be got rid of; and even the more obscure hemorrhages, that occur within the pelvis and around the uterus, have had their true nature made known, and already can their ill effects, in many cases, be obviated, and they themselves controlled. The subject of urinary fistula, loathsome alike to herself and to others, is no longer doomed to be excluded from all society; and, greatest triumph of all, we are not now obliged to look on in passive helplessness as the subjects of ovarian disease waste and fade away, but are enabled, by careful diagnosis and bold surgery to snatch some sixty-five per cent. from a painful death—a

death often rendered the more lamentable by the knowledge that the other organs of the body were sound, and that, apart from the ovarian disease, there was nothing materially wrong.

When Gooch, some five and thirty years ago, published his classical treatise on the diseases of women, there was, as Fergusson correctly remarks, "no English work on this branch of medicine which could satisfy the craving of those who hungered and thirsted after knowledge of some of the most appalling diseases incident to human nature." Since then, books on the subject have abounded both at home and abroad. In our present issue, we notice the *fifth* edition of Dr. Churchill's able and exhaustive treatise; and we have long had on our table the *fourth* edition of Bennet's book on *Inflammation of the Uterus*, and the *third* of Tilt's on *Uterine and Ovarian Inflammation*, works that have served to revolutionize uterine pathology and therapeutics, not it is true without eliciting much opposition, on account of their adopting a too exclusive pathological theory; but which must ever mark an era in our knowledge of the uterine disease. Nor is it long since we laid before our readers an analysis of the truly and pre-eminently practical *Clinical Memoirs* of M'Clintock—a book founded on the experience gained in the wards of the Dublin Lying-in Hospital, and which not only proves that its author brings to the bed-side rare and thoroughly trained powers of observation, guided and corrected by a complete knowledge of what had been observed by others, along with a clear and calm judgment, and great readiness and facility for putting in action the resources of our art, but which adds to the already extended fame of the Dublin school for sound practice, bold to the fullest extent that scientific teaching will warrant, but carried away by no wild and ephemeral speculations, and not limited by exclusive theoretical views which its foundation on the sure basis of clinical observation must always prevent.

We have now to introduce to our readers a new systematic treatise on the diseases of women, by Dr. Graily Hewitt, one that we regard as of great value, and calculated to induce a precision in the study of these affections that cannot fail to extend still further our knowledge of them. The method Dr. Graily Hewitt adopts is comparatively peculiar to himself, though it is not without precedent, and may well, we think, be called the "natural system" of teaching medicine. Feeling that all other questions likely to present themselves to the student in his early attempts to investigate disease are subsidiary in importance, he has devoted his chief

attention to diagnosis, and has divided his work into two great sections, the first being devoted to the weighing and investigating of symptoms with a view to the establishment of the diagnosis, and the second, shorter and briefer, to treatment; for without diagnosis, as he truly remarks, no advance can be made but on the imperfect basis of surmise and conjecture; and once the diagnosis has been made, the path is comparatively clear. The plan of the book is very correctly described in the following extract from the preface:—

"In regard to the mode in which the subject is considered, the first part of the work—that treating of diagnosis—differs from most other systematic treatises on the subject of diseases of women, symptons, not pathology, having been made the basis of the arrangement. This arrangement and mode of considering the subject of the diagnosis has been found best adapted for carrying out the object of the work, inasmuch as it is the one actually followed at the bedside. The difficulties encountered by everyone in the first attempt to investigate disease clinically are considerable; the subject is not presented to us at the bedside pathologically, and to suit our convenience. It is the symptom, the sign, with which we have then to deal; and before a diagnosis can be made, we must know how to give to each of these signs its proper signification. Every practitioner who has acquired facility in diagnosis possesses, in his own mind, a sort of dictionary, to which he, from time to time, refers, in order to ascertain what diagnostic value a particular sign possesses, when present under such and such circumstances; while forming a conclusion in any particular case, he passes rapidly in review all the morbid conditions or diseases with which he has known the sign in question to be associated, carefully bearing in mind the many exceptional cases to general rules which his predecessors have left on record, or which have been observed by himself. To the student, however, the disease or morbid condition presented by the patient speaks in an unknown language—one which must be learnt before a diagnosis can be arrived at; and thus it becomes an object of primary importance to the investigator of disease, that means should be available by which the value of symptoms and signs, as diagnostic of certain affections, may be duly estimated. The plan followed in the present work will, it is beleived, offer facilities for the kind of valuation required, while it further assists the observer by putting the question fairly: all the possible causes of certain symptoms being set forth, it is less likely that important disorders will altogether escape attention."

A work faithfully carried out on this system is, without question, one of the most valuable that could be put in the hands of a student, and that not merely because of the actual information conveyed,

but for the mental training it affords, and the systematic method of arrangement it teaches. For this reason alone we would be glad to see this book in the hands of every student; but when we add to this, that it is as correct in details, and as fully up to the knowledge of the day as a book on such a scale could be expected to be, we give another reason for strongly recommending it both to students and to younger practitioners. To these latter it will be found to present a great charm in the calm, thorough, and impartial examination it enters into of the various questions that are still *sub judice* as to the pathology and treatment of some of the diseases to which women are subject. Those, however, who may wish to learn all that is known on any one stated disease, will, we fear, be disappointed with books on the plan of Dr. Hewitt's. It is true that by referring to the index—and Dr. Hewitt's is very full and well arranged—a disease may be studied nearly as fully as in a work where each is treated of in a separate chapter, but the process is cumbrous and complicated, and for this reason there can never be any rivalry between these two classes of works.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.[a]

SESSION 1862-63.

NOVEMBER 25, 1863.

Dr. DUNCAN, V.P., in the Chair.

DR. BELCHER read the following paper, entitled, *A Short Biographical Sketch of a Remarkable Case of Insanity*:—

Only a few days ago the grave closed over the remains of an old lady, whom I had known when a college student, several years ago, and whom I attended in her last illness.

She was born in June, 1771, and, up to the occurrence of her mental infirmity, moved among the highest social circles in this city. When fourteen years of age she was "brought out," in the costume of a flower-girl, at one of the then fashionable masquerades, and continued for some time after to mix among the brilliant and celebrated society of that period. On one occasion, at a ball at Leinster House, she was obliged, when greatly heated, to walk, in ball costume, across the court-yard to her carriage, which stood at the gate. After this she got what was called "a brain fever." In due course the fever left her, but her reason left her also. After a while she partly recovered her mental faculties; but the occurrence of a love disappointment brought her back to her former condition, from which, however, she again partly recovered. She got fond of spirituous drinks, and a third time her intellect became affected as before; but this time it became permanently so.

[a] These reports are furnished by Dr. B. G. Guinness, Secretary to the Association.

I may here observe that there was nothing remarkable in the conformation of the head.

Besides a total inability to manage her own affairs, her insanity was evidenced by paroxysmal changes of temper, coincident with the changes of the moon. At new and full moon she became either exuberantly merry or unusually violent; particularly at new moon, when she sometimes required bodily restraint. Grain doses of tartar emetic, given at intervals, calmed her very much, and, in fact, its administration became a specific in her case by its unfailing success.

A frequently-recurring delusion under which she laboured was, that she was dead. To prove this, not only did she dispose of herself in bed, like a respectable corpse, and, as such, refuse her food, but she usually confirmed the supposed fact of her decease by loud and indignant assertions of its truth, as well as by strong denunciations—mostly fiery ones—of any unfortunate sceptic present or absent. Immediately on her friends giving audible and business-like directions about her coffin, and the performance of the last kind offices of the survivors, she regained her position in this upper world, and amply made up for the loss of nutriment occasioned by her supposed temporary decease.

She also frequently asserted that she was deaf, dumb, and blind; and evidently believed it, although her mode of proof could not be said to be either mathematical or logical. Thus, she would say:—"I am deaf, dumb, and blind; I can't hear that organ in the street; I can't speak one word, while you are all talking away; and I can't see that bird in the garden outside." All this was said of senses which she was keenly exercising at the time of her complaint.

Even at the worst there was an under current of sanity ever apparent in nearly all she said and did. Her sayings were, at all times, interesting and clever, and frequently very witty.

Beyond an occasional attack of bronchitis, which always affected her intellect, she may be said to have enjoyed perfect bodily health for many years.

She had the largest healthy tongue I have ever seen in the human subject; and, besides other uses to which, as I shall presently show, she constantly put that useful member, she gave it incessant muscular exercise. Not only was it protruded and retracted, like the piston of a steam-engine, but it was inclined to one side or the other with amazing velocity—imitating the positions of the tongues of hemiplegics, but from a cause quite the reverse of that operating in their case. No doubt this incessant exercise, in a great measure, contributed to the unusual development of the organ.

Her lingual evolutions were speedily put an end to, on any occasion, by mentioning the name of the late Professor Harrison, of whom she had a mortal horror, because of his supposed desire to place her tongue in

spirits of wine in the Anatomical Museum of Trinity College. I can only compare her grotesque and clever grimaces—imitating every possible form of the human countenance—to the faces which can be made by squeezing the countenance of a gutta percha figure; or to those frightful exhibitions of reverend antiquity which appear to the public as if they had been suddenly arrested in endeavouring to make their escape from the consecrated atmosphere of a Gothic church.

Her appetite was always good; and, although she lived to her ninety-third year, she never had a grey hair; and, without glasses, could read a placard board across one of the widest streets of this city.

For more than forty years she was not known to say anything approaching to a prayer; nor did she begin until the day before her death, which she judged was approaching.

Her insanity was further commonly evidenced by constant and never-failing cursing and swearing: not merely by giving "copious extracts from the commination service"—as Thackeray has somewhere styled this accomplishment—but by whole batteries of curses peculiar to three or four different generations. The philological criticism of many of these afforded an amusing field of discussion to some of her friends, who often wondered how she had attained to the knowledge of the maledictory phrases of modern days, since she never heard an expression of the kind used by any of those with whom she lived.

Notwithstanding this, she was thoroughly amiable and unselfish. Her common method of expressing love for a person was to say to him, "I hate you;" and when she showered abuse and cursing on her friends, she invariably meant thereby to express her fondness for them. Her cursing was only to be interpreted literally when she was irritated by any person making fun of her peculiarities, or on the occurrence of any really vexatious circumstance—such, for instance, as a policeman calling for her census-paper.

It was the custom of her friends to have daily family prayers; and, being present on these occasions, she frequently made a running commentary, aloud, on the devotional exercises then in progress. Thus, when a prayer would come round in course, commencing with the words, "We have laid ourselves down and slept, and have again arisen to acknowledge that it is Thou only that makest us dwell in safety," she would interpolate, "Devil a wink I slept." Her glosses on the Sacred Text were equally characteristic. Thus, when the fifth chapter of the Book of Joshua was read, she would wait until she heard the sentence, "For the children of Israel walked forty years in the wilderness," on which she would observe, aloud, "And, troth, a long walk they had of it." In like manner, on Genesis xxiii., commencing, "And Sarah was an hundred and seven and twenty years old: these were the years of the life of Sarah. And Sarah died," the old lady would remark, "And, troth,

'twas time for her." To the verse (St. Matt. ix., 16), "No man putteth a piece of new cloth unto an old garment," she would add, "Troth they often do." Anecdotes like these might easily be multiplied; but I read them to show that while she, on the one hand, exhibited insanity, in respect of the matter and manner of her cursing, yet that she was an acute observer of religious exercises, while she would never take any part in them.

During lucid intervals she would tell how she knew Pamela, who had boastingly shown her the handkerchief steeped in the blood of Louis XVI.; and how she was present at Dean Kirwan's last sermon in St. Peter's Church, when the ladies took off their ornaments and showered them on the plates; how she was a constant frequenter of the Tea-gardens, at the Rotunda, on Sunday evenings; with many other stories of the private lives of certain characters very celebrated in that eminent period of Irish history.

Her longevity is in itself not wonderful, except in the facts, recorded above, of her senses so long retaining their full powers. She had no second childhood; and only a few hours before death she indulged in some of her usual grimaces.

She was born in the year of Captain Cook's first voyage round the world; and during her career lived through fifty years of the reign of George III., the entire reigns of George IV. and William IV., and died in the twenty-seventh year of the reign of her present Majesty. From Louis XV. to Napoleon III. she saw eleven different forms of government in France, besides a legion of Kings and Governments set and upset all over Europe. She witnessed the constitution and dissolution of the United States of America, and an entire and complete change in the constitution, habits, and manners of our own country; the public part of which change Professor Ingram, in a paper on the condition of Ireland, lately read before the Statistical Society, did not hesitate to term "the largest peaceful revolution in the history of the world." Wellington and Napoleon rose, flourished, died, and became men of a past era, in her life-time. She lived through all the disasters of Poland, from its first partition, in 1772, and was conversant with, and greatly interested in, many of these important events.

This old lady, while retaining her faculties, sane and insane, became infirm as she grew very old, but was not confined to bed until within a few days of her death, when she refused to take any food—a trick often practised by her before. This was overcome by forcing her to take nutriment; and, as enemata failed to remove obstinate constipation, a drop of croton oil on sugar easily answered the purpose. Brandy proved *aqua vitæ* for a while; but even this failed, and, the oil of life having been at length exhausted, the lamp went out.

Her memory continued excellent throughout; in fact, much less

impaired than could be expected in the case of any sane person of her age. This would not only seem to confirm Dr. Forbes Winslow in his opposition to the generally received opinion that the faculty of memory is the first mental power which decays in insanity, but to suggest the idea of one mental faculty compensating to some extent the impairment of another—just as the loss or serious impairment of the sense of sight is frequently compensated for by the extraordinary delicacy of the sense of touch, or of hearing, or of both.

Dugald Stewart[a] expresses "a wish that medical writers would be more at pains than they have been at hitherto to ascertain the various effects which are produced on the memory by disease and old age." He seems to think that decay of memory, resulting from age, arises from diminution of the power of attention, and leaves us to infer that in insanity, or in other diseases, it may arise because "the power of recollection is disturbed in consequence of a derangement of that part of the constitution on which the association of ideas depends."

Now, in the present case, there was an unusually acute faculty of attention; in fact, a divided attention. She could carry on a soliloquy, *sotto voce*, and at the same time attend so well to all going on about her that she would at once break off the soliloquy and make remarks, theological or diabolical, showing a keen apprehension of what was passing around her.

As to the association of ideas, there seemed to be a double consciousness. She used to put together the most absurd speeches conceivable, about herself or about past events, and then immediately make most sensible remarks on the same subjects, as if to illustrate, at the same time, the absence of perception, judgment, and reasoning, and the unmistakable presence and possession of them.

The ordinary case of a person having a fixed delusion and being otherwise rational, differed from this instance, in which the person spoke of the same subject partly in incoherent phraseology, showing a derangement of the association of ideas, and partly with good common sense, evincing the effect of the ordinary association of ideas on the mind. In fact, with reference to the same subject, she assumed wrong premises and reasoned correctly from them; she assumed right premises and reasoned incorrectly from them; and reasoned from sound premises to a sound conclusion. Locke thinks there is scarce a man free from this degree of madness, "but that, if he should always, on all occasions, argue or do, as in some cases he constantly does, would not be thought fitter for Bedlam than civil conversation" (Lib. ii., cap. 33, sec. 4).

No doubt many persons in this city recollect the *personnel* of the famous Jacky Barrett; and many more have read a memoir of him in the *Dublin*

[a] Elements of the Philosophy of the Human Mind.

University Magazine for 1841. It is a great pity, I think, that Dr. Forbes Winslow did not get hold of this memoir, which, if it be at all a fair representation of the man, shows, in my opinion, much more of the madman in the subject of it than several of those psychological curiosities which are chronicled in his book *On Obscure Diseases of the Brain and Mind.* The notable Vice-Provost seems to have had the faculties of double attention and of double consciousness, and to have constantly exercised them in an insanely clever way. Some of the anecdotes recorded of him illustrate this very forcibly, particularly one instance, in which he is represented as giving a gentleman visiter information on a literary subject which required great exercise of attention and memory on the part of the speaker, and, at the same time, making some provokingly ludicrous interludes, in the shape of remarks expressive of fear, lest the visitor should seize some sovereigns which had dropped on the floor at the time. Here there could be no question that the literary critic was present; and, at the same time, his known thirst for the current coin of the realm forbids the idea of his being in any other mental state than that of painful anxiety respecting those sovereigns, which his visitor might, perhaps, prefer to the dry details of history or chronology.

The writer of the memoir referred to must himself have had some rather strange associations of ideas, for of this reverend Doctor in Divinity he writes:—"Though a religious and pious man, he indulged a habit of cursing and swearing to a fearful excess." On any theory, save one of that species of insanity which exhibits its subject as alternately cursing and praying, I think it is hard to agree with Dr. Barrett's biographer. Nor, if we read the account given of some of his Divinity lectures, can we see much difference, so far as mental sanity is concerned, between them and the theological criticisms of the subject of this paper—unless it be in the superior wit and cleverness of the latter.

To sum up this case:—Might I suggest that, while in many particulars it is not, in any sense extraordinary, yet an instance of equal longevity is not often met with in which the subject of it was insane for the greatest part of a long life—enjoyed almost uninterrupted health, with perfect use of the bodily senses—without any fixed mental delusion, but with divided attention and consciousness—with remarkably good mental powers, particularly perception and memory—and yet with the exhibition of symptoms of insanity to the close of life.

December 16th, 1863.

Dr. Aquilla Smith, Vice-President, in the Chair.

Dr. Belcher read the following paper, entitled *The Hygienic Aspect of Pogonotrophy.*

Πᾶς ἀνὴρ προσευχόμενος η προφητεύων κατὰ κεφαλῆς ἐχων καταισχύνει τὴν κεφαλὴν αὐτοῦ'

'Ανὴρ μὲν γὰρ οὐκ ὀφείλει κατακλὺπτεσθαι την κεφαλὴν, εἰκὼν και δόξα Θεοῦ ὑπάρχων· γυνὴ δὲ δοξα ἀνδρός ἐστιν

St. Paul, *Corinth., Ep.* I., c. xi., vv. 4 & 7.

The writer of the following remarks thinks some medical inquiry may be fairly exercised on this subject; not, indeed, with a view to add one more to the letters, essays, and innumerable notes and queries, which have appeared in newspapers and magazines of the last eight or ten years; but to arrive at some fair and reasonable conclusion touching the hygienic aspect of what is commonly called, in this country, "The Beard Movement."

The term "Pogonotrophy" is derived from the Greek *πωγωνοτροφέω*, to encourage the growth of the beard; and this latter is derived from *πωγων*, the beard, and *τρέφω*, to nourish.

Starting with the indisputable axioms—that the Creator intended the great majority of men to wear hair on their heads, and on the greater part of their faces, and that he did not intend women and children to have the facial covering referred to, it may interest us to review, as shortly as possible, *the various conformities to, and deviations from, this order of nature;* premising that, for the most part, the customs of men in this respect appear to have been national, or professional, or both.

Various National and Professional Customs.—In the East the growth of the beard was cultivated generally from the most remote antiquity, and it still is so. However many of the portraits of the ancient Egyptian kings, given in Rossellini's work, are beardless; while others, evidently, cultivated the natural appendage. At other times they seem to have attempted to improve on nature, by shaving, and wearing false beards as substitutes.

The ancient Assyrians were all bearded, as were also the Persians, whose kings St. Chrysostom tells us (*Opera edit Monfauc*, tom. xi., p. 378) had their beards interwoven with gold thread. The figures on the Babylonish cylinders are bearded; so are those on the reliefs from Persepolis, in the British Museum, in which, and in the Louvre, in Paris, are plenty of bearded figures from Nineveh.

The Chinese affect long beards; and, as Nature is not indulgent, they sometimes supply its defects with false ones. It may be fairly assumed that their ancient customs did not differ in any material respect from those just referred to.

The lawgiver of the Jews ordained (Leviticus xix., 26), "Thou shalt not mar the corners of thy beard." Accordingly it was held in high honour by them. To pull it was to insult its wearer; to shave it was deemed a grievous calamity; and throughout The Old Testament it is frequently made mention of, and always with respect.

The Greeks wore their beards till the time of Alexander, who, Plutarch mentions (*Life of Theseus*), cut off the beards of his soldiers, that they might not serve as handles to their enemies in battle. This custom lasted till the time of Justinian, who restored the manly appendage. Indeed, in all ages and countries, its use was associated with manly dignity, and was sanctioned by the polished nations of antiquity. Herodotus implies its general use in his time. The Trojan heroes, the poets and philosophers who adorned the groves of Academus, conspicuously cultivated it. Whoever saw a shaven Socrates? And, though Homer may be chiselled blind, yet he is venerably bearded. The College of Physicians cannot boast of a shaven Hippocrates or Galen; and it is quite certain that neither Machaon nor his brother-practitioner increased the woes of the Greeks by shaving either themselves or their patients on the plains of Troy.

Varro says the Romans let nature alone until the year 454, when Publius Ticinius Mena brought over barbers from Sicily. Pliny says that Scipio Africanus was the first Roman who shaved every day. Juvenal (Sat. iii., 176) alludes to the fact that the Romans kept the first day of shaving as a festive occasion, and as the entrance to manhood. Beards were restored by Hadrian, who was the first Emperor to set the example, which was followed to the time of Constantius.

That the ancient Irish wore them is plain enough. The bards of Tara were so adorned; all extant pictures of St. Patrick exhibit the Patron Saint bearded, even when depicted in our own day in the favourite place on the signboard of a public house.

St. Finn Barr—another canonized countryman of ours—certainly wore a beard; for his name in English means "Grey Beard."

At the Parliament held at Trim, in 1446, Mr. Whiteside tells us (*Life and Death of the Irish Parliament*, chap. i.) the Irish were directed "not to suffer their beards to grow on their upper lips." I have heard it asserted that this statute is still unrepealed.

Passing by other nations of less historical importance—such, for instance, as the Longobardi, Longbeards, or Lombards—we come to the British, who, according to Cæsar (*De Bello Gall.*, lib. v., c. xiv.) wore no beards except on the upper lip. The Anglo-Saxons, for a long time after their arrival in Britain, wore beards. The Normans shaved themselves, and compelled the English to follow their example. For a series of centuries afterwards the English cultivated it, from the king down to the lowest grades of society. At the time of the Reformation bishops were bearded, and so continued for more than a hundred years. Portraits of the Prelates Cranmer, Ridley, Latimer; and also of Cardinal Pole and Bishop Gardiner, represent them as all bearded. In Elizabeth's reign the bishop had one cut, the judge another, the soldier a third, and so on through different callings, each of which was marked by a peculiar fashion in this respect.

After the Restoration of Charles II. moustaches continued for a short time; soon, however, shaving the entire face in addition to the head, which had before become a fashion, became universal, and so continued down to comparatively a few years ago, when the reaction began. First, the head was let alone; next, an abortive piece of whisker was allowed under each ear; next, these pieces were lengthened by degrees until they met round the throat; then some ventured the clipped moustache; others, the beard *minus* the moustache; at last, some let it all grow.

In England, particularly, this fashion has become so far accepted that "it is by no means assumed now, as it was at first, by artists and literary celebrities, and the scanty fraternity which delights to live *en Bohème;* we see senators, state ministers, and philosophers, adding to the dignity of their position and the gravity of their demeanour, by adopting this imposing feature of a man's countenance."[a]

That most conservative class of men, the English clergy, all of whom were bearded prior to the Restoration, has yielded to the movement; and not only in London, but in Oxford, many dignified, bearded dons may be commonly seen; bishops, also, have joined in it, and so have members of the Bar, who feel a growing spirit of rebellion against the wig of a past age. We may expect to see judges return to the custom of James I.'s time. Lord Eldon, on his appointment to the Chancellorship, asked George II. to excuse his constant use of the ponderous wig at that time unflinchingly worn by Chancellors, alleging as a precedent James I.'s judges who did not wear wigs.[b] The King replied that they wore their beards instead; and that unless he did so, he could not be excused using the wig. From the fact of the medieval clergy having been the depositories of learning, and the practitioners in law and medicine also, we must, of course, expect the countries in which they lived to have been more or less influenced by their precept and example. We sometimes wholly mistake the meaning of the various ecclesiastical tonsures which formerly did for the varieties of clerical rank and status what is now done by the tailor's scissors and the hatter's smoothing iron. When an English bishop, some short time since, ventured to write a public letter respecting the beards of his clergy, he just repeated the history of old times. Thus, when Hadrian, in the seventh century, was about to present himself before the English bishops, we are told by Dean Hook[c] that he could not venture to do so until he had "the licentious prolixity of his beard curtailed." Archbishop Richard, says the same authority, in his canons, 500 years later, decrees, that "clerks that wear long hair are to be clipped *by the archdeacon, even against their will.*" Odericus Vitalis relates that Serlo, Bishop of Sees, in an oration before Henry I., of France, in

[a] Temple Bar Magazine, 1861.
[b] Life of Lord Chancellor Eldon.
[c] Lives of the Archbishops of Canterbury.

1005, condemned long hair, beards, and scorpion shoes, with such effect that the king and courtiers were shaved on the spot by the bishop and deacons. A canon of the Fourth Council of Carthage says :—"Clericus nec comam nutriat nec barbam radat"—"A clergyman shall neither indulge in long hair nor shave his beard." Bingham quotes Savaro's *Sidonius* (not in *Sidonium*, lib. iv., c. xxiv., p. 306) in a Latin sentence, to the effect that while the hair and beard were alike denied the clergy, it was evident that apostolic tradition went against such usages. St. Clement (*Constitut. Apostolic*, lib. i., c. iii.); Clemens Alexandrinus (*Pædagog.*, lib. iii., c. iii.); D. Cyprian, (lib. iii.; *ad Quirinum*, lxxxv.); Epiphanius (lib. iii., tom. ii.; Hæres, lib. xxx.), and various other eminent divines of antiquity wrote on this subject. *The Sidonius* above-mentioned says of a friend who took orders :—"His habit, his gait, his modesty, his countenance, his discourse, were all religious; and agreeable to these, his hair was short and his beard long." Spondanus says of the French priests, they were accustomed "vel barbati vel attonsi incedere, secundum cujusque provinciæ mores." Mr. Maguire, M.P. (*Rome : its Rulers and Institutions*), draws attention to this last state of things as now existing in Rome on a most extended scale; and "W. M.," in a letter to *The Times* newspaper, of January 2, 1861, brings forward several of the historical authorities quoted above.

In Hoffman's Latin commentary on Galen, *De Usu Partium Corporis Humani* (published at Frankfort-on-M., in 1625, and classed in library, T.C.D., HH., dd., 17), at page 258 he gives his remarks on the beard; and on the words of Galen, "Porrô quod necesse est," observes that it was so with men for two causes: 1, that certain parts might be well covered (bene tectæ); and 2, that they may be more venerable. He argues that it was not given to women because they were intended to remain at home, and "mores habent non æque laudabiles sed neque materia supererat in corpore frigido et humido quale fæminarum est." He quotes Diodorus Siculus as saying that all the ancients cultivated it; and Clemens Alexandrinus, that it obtained in the Church; for, says Clement, "the beard is the distinguishing mark (signum) of man," "per quod vir apparet." "For it is more ancient than Eve, and the sign of a better nature;" and he further argues the gross impropriety and impiety of violating the law and manifest intention of nature. After quoting Epiphanius, Diogenes, Theseus, Socrates, Persius, and others, he remarks that the old Romans cultivated it, and that the Greeks, "mollitie evirati," shaved for a considerable time; until the Emperor Hadrian "quasdam animi fenestras aperint." According to Junius, in his very elegant (*elegantissimo*) treatise, *De Coma* (cap. ii.), all the Greeks followed the imperial example—"nisi qui *delicatiores* erant." He asks the cause of only a part of the face being bearded; and says that if it was all covered the man would appear "Sylvestris ac ferus, non

mausuetus et politicus." On several parts of the face he gives comments, or rather reasons why they are not covered with hair; and, coming to the nares, says, "quia calida expiratio ipsis auxilio est." He tells a curious anecdote, quite equal, in our estimation, to that of Shylock's "pound of flesh," in Shakespeare. Two gentlemen, named respectively, Franciscus Philelphus and Timotheus Græcus, had a contention about the quantity of a syllable, and agreed that the victor should inflict on the vanquished the punishment (*pœna*) of shaving. Philelphus conquered, and shaved the beard of Timotheus "inexorabili superbiâ."

Dr. Aquilla Smith very kindly lent me a curious book, called *Epistolæ Medicinales*, by a physician, Ricardus Carr, who writes, in reply to certain supposed queries of his patron:—One of these letters is "On the Use of the Wig, whether it is Beneficial in Allaying Headaches." He enters into various kinds of headaches, and the different ways in which a wig may hurt or profit its wearer—giving what he very properly calls "responsum varium et multiplex" to his patron, who is left at liberty to adopt or reject the article as he may think best, seeing that in his case "neque proderit neque nocebit."[a]

Hotoman wrote a treatise, called "Πωγωνιας," which was printed at Leyden in 1586. Pitiscus reprints it in his *Lexicon*. The *Lexicon* of Hoffman may also be consulted on this subject; and Bulwer, in his *Anthropo-Metamorphosis, or Artificial Changeling* (4to, London, 1563, pp. 193–215), dilates on it. Scene xii. is "On the Opinion and Practice of Diverse Nations Concerning the Naturall Ensigne of Manhood Appearing about the Mouth." Neither Pitiscus, Hoffman, nor Bulwer are in the library at T.C.D.; but they are all in the Bodleian at Oxford. See also *Bayle's Dictionary* and Du Cange, on "Barba."

In *Notes and Queries*, for February 9, 1861, appeared an analysis of a work of interest on this question, The analysis was written by my learned friend, Mr. Caulfield, of Cork, B.A., F.S.A., who kindly gave me the perusal of his copy.

This curious book was published by a divine of the seventeenth century, called Sharrock. It is entitled *Dissertatio Singularis de Habitû Crinis*. In discussing the apostolic statement that it is contrary to nature for a man to wear long hair, Sharrock repudiates the idea that this judgment is against the hair of the head, and takes a more liberal view of the text. He considers that the word φύσις in the passage does not so much signify nature, strictly so called, as *common use or custom;* and remarks that it

[a] Some of the other essays are curious enough. One is on the benefit or injury resulting from frequent snuff-taking; another on the censure or praise of smoking; another on the virtues and vices of the liquor consumed in coffee houses (*coffi-poliis*); whether it is well for some to go to bed supperless, and for others not to exercise such self-denial; and whether it conduces to health to get drunk occasionally. ("Num *semel per mensem* inebriari valetudini conducit.")

may have been familiar to the Corinthians (to whom St. Paul wrote) to consider it a disgrace to wear long hair, for among the Spartans and Athenians it was esteemed honourable. The Eastern clergy have always maintained the beard in its glory; even some of the religious differences among the Russians are at this day kept up, in a great measure, by the beard controversy. Canon (now Dean) Stanley describes some of the peculiarities and conservative tendencies of Russian nonconformity in a way so *apropos* to the present subject that I hesitate not to quote a few sentences from him.[a]

"Most serious, however, of all Peter's (the Great) changes was the endeavour to assimilate his countrymen to the West, by forbidding the use of the beard. The beard was, indeed, one of the fundamental characteristics of the ancient Eastern faith. Michael Cerularius had laid it down in the eleventh century as one of the primary differences between the Greek and Latin Churches. "To shave the beard" was pronounced, at the Council of Moscow in the seventeenth century, "a sin, which even the blood of the martyrs could not expiate." It was defended, it is still defended, by texts of Scripture, by grave precedents, by ecclesiastical history. "The Levitical law commands us not to cut the hair or the beard." "Man was made in the image of God; is the image of God to be defaced?" "The sacred pictures represent our Saviour bearded." "But St. George," it may be said, "has no beard." "Yes, but St. George was a soldier, and probably shaved in obedience to his commanding officer."

Even Peter, with all his energy, quailed before the determined opposition. The nobles and the gentry, after a vain struggle, gave way, and were shaved. But the clergy and the peasantry were too strong for him. Flowing locks and magnificent beards are still, even in the Established Church, the distinguishing glory of the clerical order.

To the peasants a compromise was permitted. Many, when compelled to shave, yet kept their beards to be buried with them, fearing lest they should not be recognised at the gate of heaven; and finally a tax was substituted, of which the token of receipt was a coin stamped with a nose, mouth, moustaches, and bushy beard; and now throughout the ranks of non-conformity a shaven chin is nowhere to be seen."[b]

The wearing or shaving of beards has been made a badge of political party; thus, one of the last royal decrees of King Francis II., of Naples, was against wearing beards, because they sovoured too much of the revolutionary principles of Garibaldi.

Having now given a review of the customs of various ancient and

[a] Lectures on the History of the Eastern Church, p. 399. 2nd Edition.

[b] I am indebted to Dr. A. Smith for a drawing, and descriptive account of this token. It is to be seen in No. xxvii. of The Numismatic Chronicle.

modern nations and classes of people, with respect to the human beard, I propose to consider: 1, the *reason of these various deviations from the order of nature;* 2, *the uses for which it was probably intended in the animal economy;* and 3, the *Hygienic results of its use and abuse.*

DEVIATIONS FROM NATURE.

First, as to the *Reason of the Various Deviations from the Natural Order.* The principle of attempted human improvements on nature has been called the first æsthetic principle of savage life. Whether in the way of unnatural decorations or of personal mutilations we shall find this constantly exemplified in the page of history. In the tatooing of the South Sea Islander, the painted bodies and distorted skulls of the North American Indians, the crippled feet of the Chinese women, and in the wigged and smoothed-faced Englishman of the Restoration period, we see this same barbaric principle exemplified. The history of the word "barbarian"—at first a bearded person, then one speaking a tongue foreign to the conquerors of the world, and now *a savage*—is itself a curious piece of philology. It may be said to have fairly reversed its meaning; for certainly it is now more proper to apply the term to one who adopts the first æsthetic principle of savage life instead of to one who endeavours to seek out the intentions of nature, to follow and assist them, as we all profess to do when lauding the *vis medicatrix naturæ.*

As has already been remarked, the reasons of the various ecclesiastical tonsures are to be found in considering costume rather than mutilation, because they served to distinguish several orders and classes one from the other. It is said that a beardless French King obliged his courtiers to shave, so as to appear like their master, and that hence arose the habit, which King Charles II. brought, with some other very questionable ones, from that country to ours, in 1660.

There was a terrific struggle in society on the wig question, nearly a century ago. However, away went the wigs, as surely as ever John Gilpin's did. Everything that is now said about beards, for and against, was then furiously advanced about wigs. It is not necessary to enter on any of these grounds now; for the main reasons of the facial mutilations practised heroically every day amongst us are—the strong tendency to conservatize abuses, and the pressure of despotic social custom, which is generally unyielding in proportion to the absurdity of the popular practice.

USE OF THE BEARD.

It is assumed that the beard was intended for use in the animal economy. We ask, for what use? Looking at the physiognomy of the question we find that it gives character to the face, and makes a countenance, which would without it appear weak, appear full of reflection,

force, and decision. It serves to conceal the thoughts, hiding the most expressive features in the face, and saving the man from those betrayals which would pull down his dignity and render him often an unequal combatant in the competitive struggle of every-day life. At the same time, the general absence of bearded men makes us unfamiliar with those peculiar shades of dignified expression only to be found in the bearded face, and well known, for that reason, as well as for its artistic beauty, to the great masters of painting. The bearded face was thus a favourite study with Tintoretto, Titian, Rubens, Vandyck, and Rembrandt, who all wore beards themselves.

A woman is frequently betrayed by the quivering motions of the lips. The great tragic parts are played by shaven actors, who know well that concealing the thoughts would not answer their purpose; and large bets are made at prize fights in England because of the presence or absence of resolute determination in the shaven faces of the pugilists. The minute and disgusting report of *The Times* newspaper (Dec. 11th, 1863), while pandering to the degraded savagery of a large class in England, establishes, beyond question, the point just referred to, in the account of the recent disgraceful prize fight at Wadhurst.

We are told, on the highest authority, that woman's hair was given her "for a covering;" and the same applies, in a modified degree, to the beard in man.

The *compensating* power of nature may be seen in what is understood to be a well-ascertained fact, that, in another form—the beard—man is provided with a substitute for the profuse "covering" of woman. The scanty hairs on the head are counterbalanced by the beard; the profusion of the latter is in proportion to the tenuity of the former. Women, beardless men, and children will be found to have longer and more luxuriant hair on their heads than bearded men. But, it will be asked, why this difference? Do not women and children require the same protecting covering as men? By no means. Women and children were intended to live chiefly in houses, secure from the constant exposure to which man must necessarily be subject while engaged in the primitive, divinely-instituted, and, therefore, most natural and healthy, employments of the agriculturist and the shepherd.

The great fount and origin of nervous sensation and action, and several of its important offshoots, were intended to be covered with hair. The sensitive division of the fifth pair of nerves, supplying the principal part of the face, and its motor division, supplying the muscles of mastication, illustrate this fact; as also the *portio dura* of the seventh pair, which supplies motion to all the muscles of the face except those of mastication. The superior laryngeal nerve, which, among other distributions, goes to the epiglottis and the membrane lining the larynx; the inferior laryngeal nerve, which is distributed to most of the proper laryngeal muscles, and

is believed, by the majority of modern physiologists, to be the true nerve of voice, will certainly not be injured in their functions by the natural hairy covering of the parts to which they are distributed. It may be further assumed that the protection of the teeth, the uvula, the larynx, the epiglottis, and the tonsils is furthered by this wise natural covering. The protection of the larynx is of the last importance, when we consider the extensive range of sympathetic connexions maintained between that organ and the great vital functions of digestion, respiration, and circulation, "through the medium of the laryngeal, cardiac, pulmonary, œsophageal, and gastric branches of the eighth pair; all of which are still further associated, not only with one another, but also with the great nervous centres, by their common and frequent communications with the great sympathetic or ganglionic system in the neck, in the chest, and in the abdomen."[a]

One part of the beard, the moustache, is said, by the very general experience of wearers of it, to act, to a large extent, when unclipped, as a respirator of the best kind. It has the credit of absorbing the moisture and miasma of fogs, and of straining out the dust and soot of large towns: of taking heat from the expired breath and supplying it to the inspired cold air. The beard undoubtedly acts as a comforter. Moffatt and Livingstone, and other travellers, affirm that no wrap can equal it at night; and we all know how the fox-hunters of this present day are in the habit of tying both the fashionable donkey-eared whiskers together, to protect the throat when riding against a piercing wind. Not only does the beard protect against cold, but against heat also, like the thatch of an icehouse or of a bombproof Indian bungalow. Perspiration moistens it, and evaporation cools the surface. With this natural protection, a man may go from a hot room into a cold one, or from a pure into a noisome atmosphere, with very much less danger than his beardless associate.

HYGIENIC RESULTS.

In what has just been said we have unavoidably anticipated the last subject for our consideration, namely—"The hygienic results of its use and abuse." Several of these are already apparent. The want of hair on men's shaven heads made them resort to the clumsy substitute of a wig. This wig was not porous, and, of course, was very often too hot for them. Mature and reasonable reflection cannot fail to convince us that, except as an attempt to supply a natural defect, or to remedy a result of disease, no invention could be more preposterously absurd than that of a wig. A hundred years ago, if we credit Hogarth's pictures, it had one great virtue—and perhaps this kept up the custom—that it was an excellent surgical appliance to the many cuts and bruises which commonly accompanied

[a] Dublin, Dissector, p. 69. Fifth edition.

the under-the-table stage of the never-ceasing "*noctes ambrosianæ*" of that period. The hot head could have plenty of cold water on it, and could be easily dried and plastered, if necessary. The wig covered all defects—made the debauchee of yesterday appear the sober citizen of to-day; and, when the time for fighting came round again, the wig, like a fishwoman's cap, was either the first point of attack, or its wearer cast it off with other *impedimenta*, that he might fight the more untrammelled, and be handed down to us in pictures resembling what we now only recognize as the raving maniac or the inmate of a fever hospital. We are all pretty much agreed now on the wig question, which was the same in principle as a man getting his leg or arm cut off in order to supply its place with an elegant wooden representative.

In our damp and uncertain climate the hygienic abuses resulting from erasing the beard must be considerable. It would, of course, be absurd to say that shaven persons must *necessarily* take cold, get toothache, facial neuralgia, cynanche tonsillaris, laryngitis, and all manner of affections of the lungs, pleuræ, and air passages. It would be equally absurd to assert that bearded men must necessarily be free from all these ills, regardless of predisposition, hereditary tendency, circumstances of time, place, temperature, employment, and other considerations.

In this country we have the majority shaven, and very many of them notoriously do not contract any number of these diseases; some none at all. On the other hand, we have the bearded minority asserting their superior personal comfort, and personal immunity from diseases which they commonly contracted when shaven. Instances could be easily brought forward in this paper to prove, for example, that a man who frequently got sore throat was advised to let his beard grow; he did so, and never after had a sore throat: of a man agonized with facial neuralgia, who did likewise, and became free from that intractable malady. The argument, that because the beardless majority get on well enough, therefore the beard is useless, cannot stand the test of experience. We all know under what amazing vicissitudes of heat and cold, food and privation, the human body will exist, and even thrive, by habit. That the large majority of the males live and thrive when they are shaven proves little; for a man with one leg, or one arm, or one eye, often does better than his neighbour who has the natural allowance of these members. There is nothing in the case of the mutilated man to make him necessarily more mortal; but he cannot have as good a chance as his sound neighbour under many circumstances in which they may both be placed. The testimony of the bearded men is surely worth something. If they enjoy the boasted immunity already referred to, then, indeed, it is of importance that others should know it, and avail themselves of it too.

From all that has fallen under our observation, the fair conclusion to be arrived at is—that the bearded man has a much greater immunity from

the ills already enumerated than his shaven neighbour; that he is better able to encounter the weather than the latter; that his outdoor existence is accompanied by much more comfort than if he was shaven; and, lastly, that if he has any predisposition or hereditary tendency to phthisis, or to struma of any kind—and from this latter few are wholly free—pogonotrophy is for him the essence of hygiene: it is more calculated to preserve and improve his health, and to keep off a disease which he may transmit to generations unborn, than any amount of physic or any choice selection of diet.

This consideration becomes one of immense importance when we investigate the reports of the Registrar-General in England. It seems that in the sister country one in every four deaths results from phthisis. If we add to this the deaths from other chronic, and from all acute, diseases of the lungs and air passages, we may form a tolerably fair estimate of the actual facts. Again, this question largely affects life assurance. So large a proportion as one in nine of the deaths of assured persons is affirmed to result from phthisis;[a] and the number would be much greater only for two facts—1, that the deaths from phthisis commonly occur under thirty-five years of age, while the majority of the members of assurance societies are over that age; and 2, that tubercular disease is watchfully looked for and readily detected, while numbers are deterred from proposing assurances because of the hereditary tendency to chest disease furnished by their family history. *Cæteris paribus*, then—a bearded man ought to be a much better "life" for assurance than a shaven one; and in two cases of equal hereditary tendency, age, health, and employment, the additional premium put on because of presumed unsoundness ought to be heavier for the shaven than for the bearded candidate.

To public speakers this subject commends itself. If a man's path in life lies specially in the pursuits of the pulpit, the bar, the public lecture, or in that high combination of nature and art—public singing—it is surely a matter of great importance to avoid the chronic laryngitis of the singer, or the well-known "dysphonia clericorum." A bearded man of any of these classes may feel assured that his chance of escape from disease of the vocal organs is much better than the chance of his smooth-faced neighbour. Reference was made in another part of this paper to the use of the beard, and its hygienic results, in the cases of the agriculturist and the shepherd. This idea admits of considerable amplification.

If the beard is useful to those engaged in the out-door employments designed for men by their Maker, *a fortiori* it is useful to those engaged in the exposed employments created by man. The engine-driver, the stoker, the guard, the watchmen, and most of the other railway officials,

[a] Medical Statistics of Life Assurance, by J. G. Fleming, M.D., p. 36.

may be fairly inferred to profit by conformity to Nature's law. For an opposite reason will the engineers and firemen of steamboats profit by pogonotrophy. Further, cabmen, letter-carriers, news-venders, policemen, and many other sorts and conditions of men, may be included in this category. If there be any truth in infection from poisoned air, the clergyman visiting the dying subject of maculated typhus, and the physician standing over the odious-looking case of small-pox, will have some chance of escape by using Nature's respirator, and will muster that fearlessness—the lack of which has often sounded the death-knell of the timorous visiter. For those who live and work in impure or poisoned air, the same holds good. The house-painter, the gilder, the worker in phosphorous, the vitriol-maker, the miner, the factory mechanic, the knife-grinder, the pin-maker, and many more, would probably add years to their lives by taking this sanitary precaution.

Some will say that the various classes of mechanics just enumerated would only find the beard to be a means of collecting dirt. Granted; but what becomes of the dirt when the unprotected face receives it? Moreover, the presence of an accumulation of this kind must lead to more frequent ablutions, and thus to better health and greater comfort.

The question—"How far will lead poisoning show itself in the gums of bearded house-painters?" is one deserving attention from those who have facilities for observation on a large scale; such as physicians to the hospitals of our largest workhouses, and to those of the large infirmaries of Great Britain. Previous to the issue of the last edition of *The Queen's Regulations and Orders for the Army*, a curious rule prevailed—nothing else than that the moustache should be two inches apart from the whiskers, on every soldier's face, no matter whether the necessary number of facial inches were to be had or not. In no instance was it to be permitted that the whisker should descend lower than a line parallel with the mouth; the throat, also, was to be completely denuded. This appears to have been done for no other reason than because it was contrary to nature and good health. The most useful part of the beard was cleared off, and the least useful was so cut as not to be of any use at all. The "compensatory" principle was here a most monstrous one. The shaven civilian endeavours to make the silk stock and "paternity" shirt collar do the duty of the beard. He gets his skin so softened by the silk stock that he can catch cold with marvellous facility; but the colossal shirt collar will not do instead of the whiskers. The leather stock of the soldier gives him another advantage over his civilian brother—his liability to apoplexy. This state of things ought to be abolished in the army, especially as it is ruled now by custom and not by law. The soldier, who has to face any climate or exposure, ought to have every sanitary advantage. Who knows how many men contract fatal chest diseases on night guards, who might have escaped if bearded? The

pioneers of every regiment at home, and all regiments in most of our foreign stations, wear the beard. Now, it is wanting for all at home quite as much as abroad; and if the soldier's beard was trimmed to a suitable length, as the hair of his head is, it would do very well. But it is a most arbitrary and unconstitutional exercise of power on the part of some commanding officers, who, although the beard question has been erased from *The Queen's Regulations*, yet continue to force their men to self-mutilation of their faces, while they very properly punish them when they cut off their right thumbs.

More monstrous still is the recent Admiralty order enforcing shaving in her Majesty's fleet. Whatever opinions we may have about shaving on shore, all will agree that a bearded sailor at the wheel in a gale, or on a look-out at the mast-head, will do his work more safely to his health and none the worse to the service, because he thinks the Creator wiser than my Lords of the Admiralty.

Every possible cut may be given to the beard without erasing it; and the barbers may erect a new trade on the ruins of the old one. Thus Taylor, in his *Whip of Pride* (Works, 1630, fol., p. 43), has it:—

"Now, a few lines to paper I will put,
Of men's beards' strange and variable cut,
In which there's some do take as vain a pride
As almost in all other things beside.
Some are reap'd most substantial like a brush,
Which makes a nat'ral wit known by the bush—
(And in my time of some men I have heard
Whose wisdom have been only wealth and beard).
Many of these the proverb well doth fit
Which says—'Bush natural, more hair than wit.'
Some seem as they were starched stiff and fine,
Like to the bristles of some angry swine;
And some (to set their love's desire on edge)
Are cut and prun'd like to a thick-set hedge
Some like a spade, some like a fork, some square,
Some round, some mow'd like stubble, some stark bare;
Some sharp, stiletto-fashion, dagger-like,
That may with whisp'ring a man's eyes out-pike.
Some with the hammer cut, or Roman T,
Their beards extravagant reform'd must be.
Some with the quadrate, some triangle fashion,
Some circular, some oval in translation;
Some perpendicular in longitude,
Some like a thicket for their crassitude;
That heights, depths, breadths, triforme, square, oval, round,
And rules geometrical in beards are found.
. . . . . .
The barbers thus (like tailors) still must be
Acquainted with each cut's variety."

The jolly shaven head and face of a century ago asserted a clear principle, that art was better than nature; the bearded man of this day asserts that nature is better than art. But the whole set of *compromisers* — inch-whisker men, jaw-whisker men, donkey-eared-whisker men, "Newgate frill"-ed men, Frenchified, moustached, or would-be military men—have no reasonable ground on which to rest *their* opposition to the constitution and course of nature. They are alike opposed by the conclusions of anatomy, physiology, hygienic medicine, and by every principle of sound philosophy.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.[a]

Dr. Mayne, President.

Intestinal Lesion, with Obscure Symptoms, in Typhoid Fever.—Professor Law exhibited a specimen of extensive ulceration of the small intestine, occurring in a case of fever, in which the symptoms during life afforded but slight grounds for suspecting the lesion that *post mortem* examination revealed.

Professor Law observed that the great purpose and object of their pathological enquiries was to establish, as far as possible, a relation between symptoms exhibited during life and the appearances presented after death; and, although in many instances the symptoms were a tolerably exact measure of the amount of local lesion, yet this was very far from being constantly the case. Among the many causes that interrupted this relation between the local lesion and its indicating symptoms Professor Law would only refer to the one which he considered to have acted in the present case, viz., the complication that existed, and which had the effect, not of obscuring, but of actually preventing, the existence of the usual symptoms of the lesion.

The subject of the case was admitted into the hospital on the 14th of November last. She was brought from the country, a distance of about eight miles. When she entered the hospital the entire surface of the body was deeply cyanosed, and cold; her breathing was greatly distressed; the dyspnea was most urgent; she was in a state of almost complete collapse, and was nearly moribund. She revived under the influence of stimulants. There was not a part of the chest, either anteriorly or posteriorly, in which the stethoscope, when applied, did not indicate the existence of bronchitis. Loud, sonorous, sibilant râles and large crepitus were heard all through it. The abdomen was not tympanitic, nor tender

[a] These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

on pressure. The universally congested condition of surface prevented the recognition of any distinct spots. The pulse was extremely rapid (130 in the minute) and small. There was considerable delirium through the night. Professor Law remarked that it was not easy to decide whether the case was one of original fever, with secondary pulmonic affection, or an original pulmonic affection with its symptomatic fever. The only information he could obtain of the patient's state, previous to her admission into hospital, was, that she had been a fortnight ill. He considered it to be a case of fever, with secondary pulmonic affection—a view which the early disposition to the formation of bed sores served to confirm. The day after the patient's admission there was slight diarrhea, which speedily yielded to astringents. From this onwards to the day of her death, which occurred in a week, the bowels were only disturbed once daily; there was neither tympanitis nor pain on pressure, nor ilio-cecal gargouillement. The pulmonary affection and delirium were the prominent features of her illness; and these seemed so to improve as to afford some faint hope of ultimate recovery. But it happened in this case—as in many others that had come under Professor Law's observation, where patients who, either from disinclination to enter an hospital or from causes beyond their control, had been kept at home without the comforts and care that they required, more especially at this stage of their illness, such patients, not unfrequently, when received into hospital, and now experiencing the good treatment and care which they needed before, but did not get, made such a rally as to lead one to expect a recovery; but such an expectation was often disappointed from disease having had too much time to produce a prostration which no future treatment could repair.

Post mortem examination exhibited the entire bronchial membrane in a state of deep congestion; the parenchyma of both lungs was in a state of engorgement; the heart was soft and flabby; there was no abnormal appearance of the gastro-intestinal mucous membrane until that of the ilium was reached, which presented an opaque appearance in distinct patches, which was very observable when held up to the light. In pursuing the examination of this part of the intestines these patches became more apparent, presenting the dark dotted appearance which the French have so aptly compared to the shorn beard, then small circular ulcers, with elevated edges, came into view; then elliptical patches, deeply ulcerated, nearer to each other, and in a more advanced stage of ulceration, until we reached the ilio-cecal valve, where the destruction of tissue was greatest. The mesenteric glands opposite the intestinal ulcers were much enlarged.

Professor Law remarked that he had scarcely met with a more perfect specimen of the intestinal lesion so often found in cases of fatal typhoid fever, and did not believe that he had ever seen such an extent of disease

so little marked by the ordinary symptoms that prepare us for such a lesion. He could only explain it by the complication that existed. The practical physician knows how frequently in typhoid fever a cerebral affection alternates with the abdominal; how often, when diarrhea ceases, delirium comes on; and how cautious he must be, when he directs his remedies to check the diarrhea, not to overlook the probable contingency of the brain becoming affected. If, then, a cerebral affection in such cases neutralizes the symptoms of the intestinal lesion, *à plus forte raison*, a complication of cerebral and pulmonic affection will do so more effectually. This seemed to Professor Law the most plausible explanation of the singular absence of the usual symptoms of the intestinal lesion unexpectedly revealed by *post mortem* examination.—*November* 28, 1863.

Gout.—Dr. Bennett said that the specimens which he brought before the society exhibited the pathological appearances of articular gout, combined with those of chronic rheumatic arthritis. The specimens consisted of the articular surfaces of the knee, ankle, calcaneo-astragaloid and first metatarso-phalangeal articulations of the right side, the humerus and bones of the fore-arm of the same side, and the first metatarsal bone of the left side. The body from which the preparations were taken was that of an aged man, brought into the School of Medicine of Trinity College for dissection. Of the history of the case during life nothing was known; but there could be no doubt as to the nature of the diseases from which he had suffered. The cartilages of the joints of the lower extremities exhibited were encrusted with a white deposit over the greater part of their surfaces, and the deposit extended for some depth into the substance of the cartilage, so that it could not be removed without injury to the latter. The appearance of the deposit exactly coincided with the representations of gouty deposit given in pathological works—in fact the plate given by Dr. Garrod, in his work on gout, representing the disease on the lower end of the femur, might be taken as an exact picture of the specimens on the table. On testing the deposit, by placing on it a drop of strong nitric acid, and, after a few minutes, holding the moistened surface over the fumes of strong liquor ammoniæ, the reaction characteristic of lithic acid occurs, and the colour of the deposit is changed to a bright orange-scarlet. The microscopic examination of a thin vertical section of the cartilage through the deposit shows that the latter is composed of minute acicular crystals of lithate of soda.

From these facts it is evident that the deposit is that caused by gouty inflammation.

The trochlea of the astragalus presents a very different appearance on its outer edge. Here the gouty deposit, the cartilage, and a portion of

the bone itself is, as it were, cut off, and replaced by the well-known porcellaneous deposit of chronic rheumatic arthritis; the extent of surface so affected is but small, but it is quite characteristic. On referring to the other joints we find abundant evidence of rheumatic arthritis—the head of the right humerus being altered in appearance in the usual way, and its surface presenting the ivory-like polish. The disease occurred also in the left shoulder, and in some of the other joints. There is evidence of a third distinct disease affecting the articulations, the right elbow being completely fixed by bony anchylosis, the result of suppurative inflammation. The case is one of considerable interest, not only as presenting an example of gout in the poorer classes, but also as showing the co-existence of gout and chronic rheumatic arthritis in the same joint.

Speaking of the distinct character of the two diseases, Dr. Adams, in his work on chronic rheumatic arthritis, observes:—"We have not, in making our *post mortem* examinations here, found any evidence of true gout having existed. No cretaceous deposits have been observed in the bursæ or in the neighbourhood of the diseased joints, nor any deposit of lithate of soda on their articular surfaces." The so-called porcellaneous deposit of chronic rheumatic arthritis is simply the surface of the bone deprived of its cartilage, and condensed and polished by friction. There is no new substance to be seen by the microscope—nothing but bony tissue, with its canals diminished in size.—*November* 28, 1863.

Hydrocephalus.—Dr. J. F. Duncan exhibited a specimen of an unusual form of chronic hydrocephalus, taken from the body of an infant, fourteen months old, which had been admitted into the Adelaide Hospital, November 24, 1863, but the history of which had been imperfectly ascertained, as he had not had an opportunity of seeing the mother when she brought it. So far as he could learn, the child had been healthy up to three months old; it was then put out to nurse, when it is supposed to have been neglected and ill-fed. It had never received any injury. At the time of its admission it was in an advanced stage of marasmus, being little else than skin and bone, and was worn down with constant diarrhea. There was a remarkable disproportion between the diminutive and wasted body and the large expanded head, characteristic of advanced hydrocephalus. The body, in point of size, seemed smaller than that of an ordinary infant at birth. The fontanelles were particularly large; and fluctuation was manifest. There were only two incisors cut in each jaw, and the first molars on each side in the upper jaw were just making their appearance.

But what struck the observer most forcibly was the peculiar aspect of the child. The eyes were particularly bright-looking, with a quickness and mobility quite unusual in cases of this kind. He watched every movement of the bystanders, and seemed to listen to every word that

was said, as if he was quite aware that he was himself the subject of observation, and almost as if he understood what was said. Dr. D. could compare the expression of his countenance to nothing but the inquisitive gaze of some of the monkeys in a menagerie.

He had had vomiting and diarrhea for a long time previous to admission, but nothing was said as to his having been convulsed. There was no strabismus to be observed, but he was exceedingly wakeful, sleeping little, if any, even in the night; and he was constantly uttering a cry which seemed to express peevishness rather than pain.

The only treatment adopted was judicious nourishment and mild opiates to check diarrhea and promote sleep.

For three days he seemed to improve, the diarrhea becoming less urgent, his appetite keen, and his cry less painful to listen to. On the afternoon of the third day he was seized with a convulsion at one o'clock, p.m., which was followed at short intervals by two others, and at four o'clock he died. Mr. Rice made a *post mortem* examination that evening, but the only part examined was the head.

The dura mater was unusually adherent to the bones. Beneath this membrane there lay, over-spreading each hemisphere, an oblong flattish cyst or sack, of a dense opaque structure, between the dura mater and arachnoid, and in appearance bearing a closer resemblance to the former than to the latter—each cyst containing about an ounce of fluid; beneath these cysts the brain was found of healthy form, consistence, and size; the convolutions regularly marked, and the sulci of ordinary depth. The cranial bones were thin and light.

Dr. Duncan thought the integrity of the brain proper, and the probable absence of pressure, owing to the expanded condition of the cranial envelope accounted for the apparent intelligence of the child, as evidenced by its look and actions, and for the absence of convulsions during the earlier period of the case.—*December* 5, 1863.

Cancer of the Stomach.—Dr. M'Dowel exhibited a remarkable specimen of encephaloid disease, affecting the pyloric extremity of the stomach. There had been no symptoms, during life, leading to the suspicion that so formidable a disease existed. The patient, a female, aged twenty-six, was admitted into the Whitworth Hospital about six weeks before her death, in a state of extreme debility. She had borne four children within a short period, and had nursed them all. Only one of them survived. Dr. M'Dowel, on inquiring into her history, was led to believe that she was suffering merely from the debility which often attends too frequent pregnancy. Dr. Banks, under whose care she had been some time previously, had arrived at the same conclusion. She was anxious for nourishment, and was placed on the full diet of the hospital, which seemed to agree with her. The case was treated as one of purely

functional derangement, there not appearing to be any reason to suspect the presence of organic disease. After some time she seemed to improve, and expressed herself relieved, to a great extent, of the languor and weakness she had before complained of; but ten days before her death she began to suffer from uneasiness in the lower part of the abdomen, which was swollen below the umbilicus. However, she scarcely complained, and took her food as usual; but on two or three occasions vomited some fluid from the stomach. About four days ago, while stooping to draw on her stocking, she fell forward, and was taken up insensible. She died in five or six minutes afterwards, and it was very difficult to say to what cause her death was to be ascribed.

The lungs were found to be quite healthy; the liver, somewhat enlarged, presented slight indications of fatty degeneration; there was no sign of inflammatory action in the abdomen; and the heart and brain presented no abnormal appearances. The stomach was the only viscus found to be diseased; there was great thickening of its pyloric portion, and, upon laying it open, a large mass of encephaloid disease was found, forming a tumour of a circular form, softened in the centre, and infiltrated with a white creamy fluid.

Dr. M'Dowel observed that the points of interest connected with the case were—the occurrence of cancer of the stomach at the early age of twenty-six years, and the absence of any symptoms, during life, that could lead to the supposition of its existence.

In 1840 the late Professor Graves had brought under the notice of the society a specimen of encephaloid disease of the stomach, extending from the œsophagus to the pylorus, taken from the body of a man not more than twenty-five years of age. In Dr. Graves' case the disease had also engaged the folds of the gastro-hepatic omentum, forming an enormous mass, which, by pressing on the biliary ducts, had given rise to jaundice.—*December* 5, 1863.

Disease of the Prostate Gland.—Mr. J. Smyly exhibited a specimen of hypertrophy of the middle lobe of the prostate gland, removed from the body of a man, aged sixty-eight, who had just died in the Meath Hospital, having been admitted, the day before his death, in a state of great depression, and in great agony from retention of urine, accompanied by a low typhoid fever, and constant hiccup; the bladder was distended to a very great degree. A silver catheter was introduced without difficulty, and two quarts, by measure, of ammoniacal urine drawn off. He stated that he had never suffered from the enlargement of the prostate gland until a week before his admission into the hospital, and that during that period the urine had been repeatedly drawn off. He died comatose.

The bladder was enormously distended, but not much hypertrophied.

The mucous membrane was highly inflamed. The vesical orifices of the ureters were patulous; and the tubes themselves, together with the pelvis of each kidney, were dilated to a great degree, and their lining membrane inflamed. The right lobe of the prostate was enlarged; but the chief cause of the obstruction to the flow of the urine was the hypertrophied condition of the third or middle lobe, as it is termed, of the gland; it did not obstruct the passage of the catheter; but, in the effort to expel the urine, it was applied, like a valve, against the orifice of the urethra.

Mr. Smyly remarked, that although a difference of opinion existed as to the nature and formation of what is termed the bar at the neck of the bladder, there could be no doubt but that in this instance the tumour consisted of the same structure as that which composed the prostate gland.—*December* 5, 1863.

Encysted Tumour.—Mr. Hamilton gave the following history of a specimen of encysted tumour, which he had removed, a few days since, from the neck of a lady. It had existed for ten years; and he had examined it six years ago, along with the late Sir Philip Crampton, who recommended that it should not be interfered with as long as it continued stationary; the lady not being anxious for its removal.

About four months ago it began to enlarge rapidly, and Mr. Hamilton advised its immediate removal. It now extended along the right side of the neck, from the angle of the jaw to near the chin; was of the form and size of a lemon, and could be moved freely in all directions, although its deep surface seemed to be somewhat adherent. Its surface was tolerably smooth, and showed no enlarged veins; neither was it discoloured. It was never the seat of pain of any description; and was manifestly not of a malignant nature.

An incision, in the long axis of the tumour, was carried through the integuments down to the cyst, but, in doing so, a small opening was made in the latter, through which some of its contents rapidly and forcibly escaped; this accidental opening was at once enlarged, so as to admit of the contained matter (which was of a sebaceous character) being entirely removed; no sooner, however, was this done than a violent bleeding took place from the internal surface of the cyst, evidently from numerous vessels existing in the cyst itself. Being convinced of the correctness of this view, Mr. Hamilton resolved to tear out the cyst altogether, in the hope that the hemorrhage would thus be arrested. He accordingly did so, partly by tearing and partly with his finger nails; it was adherent on the inside of the jaw, and connected with the sub-maxillary gland. During this proceeding he was stopped by the lady (the effects of the chloroform passing off) stating that she experienced a remarkable and peculiar sensation in the tongue. On examination he found that in pulling out the cyst he was placing the ninth pair of nerves in a state of

tension. Upon the removal of the cyst the bleeding at once ceased. The contents of the tumour, examined under the microscope, appeared to be composed of sebaceous matter, epithelium, and degenerated glandular tissue. There was no trace of malignant structure.—*December* 5, 1863.

Fracture of the Femur.—Mr. Tyrrell presented a remarkable example of fracture of the upper third of the femur, just below the lesser trochanter, taken from the body of a female, aged 73 ; she died just seven weeks after the occurrence of the accident. Upon *post mortem* examination a very oblique fracture was found running from below and in front, upwards, backwards, and outwards, and terminating close to the lesser trochanter. The inferior fragment was drawn upwards, the pointed extremity of the superior being directed forwards, outwards, and upwards, no doubt by the action of the psoas, and iliacus, and pectinalis muscles. A certain amount of union had taken place between the contiguous surfaces, the uniting medium being of an osteo-fibrous character. The fragments were not encircled by what Dupuytren has termed "provisional callus." The specimen showed (to use the words of Sir Astley Cooper) "that a fracture thus circumstanced has the ossific deposition only on that side where the inflammation is preserved by the pressure of one bone on the other." The exposed medullary cavity of the upper fragment was covered by a tense, but delicate membrane, similar to that described by Paget, and the asperities caused by the fracture had been absorbed.

Mr. Tyrrell, in conclusion, alluded to the extreme difficulty of managing this accident, and of counteracting the effect of the psoas muscle on the superior fragment. Cooper states that when pressure is made over the projection caused by this fragment it only adds to the patient's suffering and the degree of irritation of the limb, without preserving the bone in its proper position. The specimen now exhibited closely resembles those delineated by Cooper and Malgaigne.—*December* 12, 1863.

Encysted Hydrocele of the Testicle.—Dr. Fleming exhibited a drawing illustrative of this form of hydrocele. The disease occurred in a man, aged 70, and the case was remarkable both for the size to which the tumour had attained, and as an instance of double hydrocele of the species above mentioned. The man applied at the Richmond Hospital for a truss for a supposed inguinal hernia; he had been in the habit of wearing one for a long time. On being examined, no hernia was found, but symptoms of encysted hydrocele of the testicle, both at the right and left sides, were manifest. In the more advanced stages of this disease, when it had reached the size represented in the drawing, it deserved, perhaps, the name of encysted hydrocele of the cord. In the present

instance, the tumour resembled a scrotal hernia in the position of the testicle, which was situated at the lowest part of the scrotum; but the isolation of the abdominal ring and translucent condition of the sac pointed to hydrocele. It was tapped, and about fourteen ounces of fluid were drawn off.

The fluid secreted in such cases, and now exhibited to the society, had been by many writers compared to the milk of the cocoa-nut; but no matter what its colour may be, Dr. Fleming had generally found, on examining it by the microscope, large numbers of spermatozoa; a circumstance which he had never observed in cases of simple hydrocele of the tunica vaginalis; neither is it to be expected in such, unless some disease of the testis has co-existed whereby the surface of the organ and its coverings have been frayed and injured, allowing spermatozoa to escape.

In the special forms of hydrocele now under consideration they are almost invariably present, and it is of interest, in a pathological point of view, to investigate their source. Several hypothesis have been advanced; but Dr. Fleming was inclined to agree with Dr. Paget, who believed that a cyst possesses the power of forming material resembling that of structures in its immediate vicinity. Thus, in cases of what is termed the chronic mammary tumour, we find a tissue very much resembling the mammary structure. Thus, again, in some cases of lacteal tumour, the contents of the cyst have all the appearance of milk. From these and other similar facts, it may, perhaps, be inferred that cysts in the vicinity of secreting organs have a power of generating contents of a similar character with those organs. Mr. Curling, in an able discussion on the subject, questions the accuracy of this opinion. Dr. Fleming was inclined to think, however, that the views of Dr. Paget were deserving of serious consideration.—*December* 12, 1863.

Rupture of the Liver.—Mr. E. Hamilton laid before the meeting an example of rupture of the liver, taken from the body of a boy, who had been crushed between the buffers of two waggons on the Great Southern and Western Railway. When brought into Steevens' Hospital he was in a state of extreme collapse. His face had a death-like pallor; the eye-lids were surrounded by a dark circle, and the pulse could not be felt at the wrist. There was neither vomiting nor convulsions. Mr. Colles, under whose care he was admitted, expressed his opinion that he was dying of internal hemorrhage from rupture of some of the viscera. He died about an hour after his admission into the hospital.

On *post mortem* examination the peritoneal cavity was found filled with blood, which was in part coagulated. The source of the bleeding was found to be a rupture of the liver; the laceration traversed it completely from its thin to its thick edge. There was a slight ecchymosis of one kidney.—*December* 12, 1863.

Gangrene of the Leg and Foot.—Professor Law brought under the notice of the society the case of a man, aged sixty-three, who had been admitted into Sir Patrick Dun's Hospital, November 19th, labouring under urgent dyspnea, which, upon examination, was found to depend on the presence of emphysema and bronchitis, affecting both lungs throughout their entire extent, except the lower portion of the right. Here there was dulness on percussion, both in front and posteriorly, and feeble respiration, but neither bronchophony nor œgophony. There was no vocal fremitus corresponding to the dull sound. The action of the heart was irregular, and indicative of a weak state of the organ.

About two o'clock, on the morning of the 1st of December, he was suddenly seized with a pain in the calf of the right leg, of so severe and violent a character that the resident medical officer was called to see him. Professor Law saw him at nine o'clock in the morning, and noticed a slight discolouration of the limb, from the knee to the foot, and a remarkable difference between its temperature and that of the opposite one. It was painful on pressure, especially in the popliteal space. The action of the heart, and of the pulse at the wrist, were irregular, as before, but the right femoral artery pulsated as strongly as the left. Every day, for four days, the affected limb became colder and more livid, and its sensibility declined. He died on the fifth day after the occurrence of the pain in the leg.

Upon examination, after death, the anatomical characters of emphysema and bronchitis presented themselves in both lungs, along with a copious effusion of serum into the right pleura. The right lung was adherent to the diaphragm, its lower third carnified, and bands of lymph connected the opposite pleural surfaces inferiorly, which accounted for the feeble respiration heard during life, and which would have been absent entirely but for these adhesions. The heart was larger than natural, and its ventricles were distended with coagulated blood. There was no valvular disease. The entire extent of the aorta was covered with atheromatous deposits, and at its bifurcation calcareous laminæ existed. A similar degeneration existed throughout the whole course of the right femoral artery. The popliteal, and the anterior and posterior tibial arteries were filled by a solid fibrinous coagulum of very firm consistence. The veins of the lower part of the limb were large, and so numerous as to resemble a *rete mirabile*. The muscles were soft, friable, and pulpy.

How was this embolism, or coagulation of the blood in the arteries, to be accounted for? If it were the result of arteritis it differed widely from the descriptions given of that affection. The patient had never felt anything in his leg to attract his notice until he was suddenly seized with pain four days before his death. It was not probable that it resulted from the disorganized condition of the arteries, similar degenerations being of frequent occurrence without causing coagulation of the blood or

gangrene of the limb. Professor Law was rather inclined to refer it, in the present case, to the *stasis* of the blood in the limb, the result of the embarrassed action of the heart from the pulmonary obstruction, and from the diseased state of the artery which, from the loss of its organic elastic power, could afford but little help to the already overtaxed organ. The dependence of the heart on this elastic power of the arteries to propel the blood was shown by the great amount of hypertrophy that usually resulted from its loss when the ascending aorta became atheromatous, the hypertrophy seeming to be, in such cases, compensatory.—*December* 12, 1863.

Ovarian Tumour.—Dr. Beatty exhibited two specimens of ovarian tumour, which had been successfully removed by operation. The first was an example of a unilocular ovarian cyst, removed by Mr. Spencer Wells, from a lady, aged fifty-five; it had never been tapped. The recovery of the patient was perfect and rapid. The second specimen had been removed from a patient in the Adelaide Hospital, by Dr. Walsh. It formed a striking contrast to the first, being multilocular. The principal cyst contained between five and six pints of fluid. The great bulk of the tumour was made up of other cysts, independent of each other, and growing from the interior of the larger one. The patient, who was aged forty-five, recovered, and returned to the country perfectly well.—*December* 12, 1863.

Cancer of the Breast.—Dr. Barton said that the specimen which he wished to lay before the society (though one of a disease, unfortunately, of too frequent occurrence) was yet possessed of features of pathological interest. It was removed from a female, aged 60, and remarkably fat. It had existed for three years and a half at the time of the operation; it occupied the left breast, and was four and a half inches in length, by two in breadth. The nipple was retracted, but there was no glandular disease in the vicinity, nor was the tumour adherent. The woman seemed to be in tolerably good health, but the action of the heart was weak. She was most anxious to have the tumour extirpated, and as there did not seem to be any special objection, the operation was performed, the woman having been placed slightly under the influence of chloroform, on account of the weak action of the heart. The bleeding was considerable, and numerous vessels required to be tied. There was considerable difficulty in removing the tumour on account of the great depth of fat which covered it, the adipose substance being fully two inches thick, as well as from the fact that a process of the tumour passed deeply behind the pectoral muscle; the presence of this had not been suspected, inasmuch as the tumour was very movable. The section of the breast which was laid before the society presented a good example

of scirrhus in its two stages, the outer part of the growth being as hard as cartilage, and of a pearly white colour, while in the centre the morbid substance was softened, easily broken down, and of a reddish tinge.—*December* 19, 1863.

Ovarian Tumour.—Dr. Collis briefly detailed the particulars of a case in which he had recently performed the operation of ovariotomy, and exhibited the tumour. The patient was twenty-five years of age, and, until five years ago, enjoyed excellent health. She then got an attack of vaginitis, from sitting on a rock during the display of fireworks at the regatta at Kingstown, in 1858. The inflammation spread to the uterus, and also engaged one of the ovaries. She suffered severe pain at the time, with suppression of the menses. For three years after this she had no further symptoms, beyond occasional pain in the pubic and right iliac regions.

About two years ago she discovered a small, hard, floating tumour in progress of development in the right iliac fossa. It gradually enlarged, filling the abdominal cavity, and leading to the suspicion that she was pregnant, until, on examination, a large tumour was discovered. In June last it was tapped by Dr. Parkinson, on which occasion six gallons and a-half of fluid were removed. It filled very quickly again. This circumstance was an ingredient in leading to the conclusion that it was a case fit for the operation of ovariotomy. The right portion of the abdominal parietes was free from adhesions; there were some to the left, but they were supposed to be of recent formation. However, on emptying the tumour of its fluid contents (amounting to seven gallons and a-half), it was found that at the back end inferiorly, there were several adhesions of great strength, requiring prolonged and careful manipulation to detach them. The uterus was enlarged, and more vascular than natural.

The patient bore the operation well, and reaction soon set in; but after a few days serious symptoms showed themselves, and on the sixth day there was a very quick pulse, irritable stomach, and tympany. She died, on the eighth day, of gangrenous peritonitis.

The cyst, when laid open, displayed in its interior a great number of secondary cysts. The two largest had been punctured during the operation; others, as large as oranges, projected into the interior of the primary cyst—some filled with a transparent, glairy fluid, and some with a thick pultaceous substance. At the lower part were a multitude of undeveloped cysts, presenting a gelatinous appearance. On the outside of the cyst, at one part, much of the healthy stroma of the ovary could be traced.

Dr. Collis, having made some remarks upon the various forms of cystic disease of the ovary, concluded by stating that full details of the case would be given on a future occasion.—*December* 19, 1863.

Fibrinous Crasis, and its Pathological Results.—Professor Law in exhibiting what he designated a typical example of inflammatory blood, remarked, that at any time such a specimen would have been worthy of being brought under the notice of a Pathological Society, as he had never seen one that showed more strikingly the buffed and cupped appearance chracteristic of such blood. He had an additional reason for now producing such a specimen, because that from the rarity of the operation of venesection the opportunities of seeing such blood did not often occur; it was, in fact, a great rarity. With regard to the great change that had taken place in practical medicine as to the use, or rather disuse of the lancet, Professor Law would observe, that the change was not only justified but required by the actual change in the type and character of disease. While he thus assented to the propriety of the reserved use of the lancet, he did not altogether place this instrument *inter desueta arma*, nor should he do so as long as it enabled him to bring the treatment of an aggravated case of acute rheumatism, complicated with bronchitis and pericarditis, to a successful issue within three weeks. Such was the case from which the blood was taken in the present instance; the subject was a large, full, plethoric woman, aged twenty-eight, admitted into hospital November the 18th, perfectly helpless; her wrists, and knees, and ankles were swollen and painful; she had extensive bronchitis in both lungs. The third day after her admission there was an obscure attrition murmur in the precordial region; for several days it became more and more distinct each day; then it gradually lost its rough character, until it entirely disappeared, and, as Professor Law believed, without adhesion, at least without the signs which should lead to the belief of such result, viz., irregular action of the heart and irregular pulse, increased dulness on percussion in the cardiac region, &c.; its area not altered by the position of the patient. She was bled the day after her admission. She was pronounced convalescent on the 6th December, and was dismissed, cured, on the 19th, having been kept in hospital several days after her complete recovery to secure her against a relapse.

Professor Law directed especial attention to the extreme contraction of the lymph or fibrin that occupied the upper surface of the coagulum, observing that it was the ingredient of the blood, which as an exudate in inflammation, and exercising its peculiar contracting property when deposited on the surface, or in the substance of an organ, affected its form, its function, and its nutrition; its injurious effects and influences were not confined to the organ that was the seat of such exudate, but extended to other organs, and often even to the whole system, deranging it more or less. It is it that, when spread on the surface of the lung contracts it in its vertical and transverse axis, and insinuating itself into the substance of the organ, by this same contracting property obliterates the vesicular structure, and, in doing so, both dilates the bronchial

tubes by its action on their whole circumference, and leaves room for such dilatation by the pulmonic structure being so compressed. By this same contracting process, the vesicular structure in which the branches of the bronchial tubes terminate, is converted into a few large cavities or sacs, so like tubercular cavities as often to be mistaken for them. The lung, so modified, resembles closely the tortoise's lung, exhibiting a specimen how disease reduces the organ in the higher animal to what is its normal condition in an inferior one. It also presents a beautiful example of the mode in which nature remedies the results of disease, if she does not entirely remove them; for although by the compression and obliteration of the vesicular structure of the lung, the great object for which the normal arrangement of its structure is intended, viz., to afford the greatest possible extent of surface within the smallest space for the air to act on the blood, is in a degree frustrated; still the consequent dilatation of the bronchial tubes and their terminating in those cavities to which allusion has already been made, are some compensation. Besides, less air is now required in the lung, because less blood enters it on account of the compression of the vessels.

Professor Law has already brought under the notice of the society a case where all the vessels of the affected lung appeared to be obliterated, while the opposite lung was the seat of extensive pulmonary apoplexy—the patient, during life, having had repeated and profuse hemoptysis.

It is this same element of the blood which when deposited on the surface or in the substance of the valves of the heart, and exercising its contracting influence on these valves, so alters them as to unfit them for their function. It is it also which, when effused on the surface of the the liver, in that pathological condition of the organ designated cirrhosis, by its contraction produces the diminution in size so remarkable in it; and which entering into the substance of the organ, and pursuing the course of the capsule of Glisson, contracting upon the lobules, causes them to assume the peculiar round pisiform shape which on the surface imparts to it the uneven irregular appearance which has procured for it the designation of granular or hob-nailed liver; and as each lobule is, as it were, imbedded in a portion of the capsule of Glisson, which serves as a sheath for the branches of the porta, of the hepatic artery and the biliary ducts, these vessels all share in the compression exercised upon the lobules, and the results of such compression are, ascites from the fulness of the trunk of the porta and its tributaries, even to the capillaries of the peritoneum, and often to those of the intestinal mucous membrane, which, while the former only admit the serum, and allow it to escape into the peritoneal cavity, admit the corpuscles, which, escaping into the intestine, cause death by hemorrhage—the frequent fatal termination of this hepatic disease—and atrophy of the liver from the branches of the hepatic artery, on account of their compression, no longer conveying to the organ its

material of nutrition; hence the diminished size of the organ is not entirely due to the compression and condensation of its structure from the contracting membrane on the surface. This contracting fibrin affects the kidney in the same way that it does the liver. It diminishes its size, and by compressing the parenchyma of the organ and its vessels, interferes with its function and nutrition, and causes general dropsy; and by its hindering the eliminating energy of the organ, allows the urea, which ought to be removed from the blood, to remain in it, and to exercise a poisonous influence. The same element, deposited in the submucous cellular tissue of the intestine and of the urethra, causes the stricture of these canals with all its injurious effects. It is it, too, that in extensive burns, as the matter of cicatrix, so often baffles the efforts of the surgeon to counteract the disfigurements resulting from the lesion. Professor Law remarked that latterly this element—from the prominent place it occupied in pathology, while it is so sparingly, if at all, found in the embryo—has raised a question as to whether it should not be regarded as an excrementitious formation, or as a substance carried by oxidation to the verge of disintegration, rather than as one destined for plastic purposes in the animal body.—*December* 19, 1863.

Extrophy of the Bladder.—Dr. Banon brought before the society a case of extrophy of the bladder. The subject of this remarkable malformation was a man, aged thirty, who had been under his care, as a lunatic, in the Richmond Prison, on two different occasions, on the latter of which he died—on the 22nd of November last—the immediate cause of death being the formation of a large pelvic abscess. He had been a man of very intemperate habits; he was married in 1856, and, according to his wife's statement, was not impotent, although she never became pregnant. His insanity commenced three years ago. On first seeing him Dr. Banon was struck with the circumstance of his being dressed in petticoats, his waddling gait, and the strong urinous smell which proceeded from him.

On examination the nature of the case became evident at once. The umbilical cicatrix could scarcely be discerned, and, immediately below it, a raw surface, of a deep crimson colour, presented itself, extending down to the pubis, over which the urine dribbled, excoriating the groins and scrotum. Directly below the traces of the umbilical cicatrix, and at the upper extremity of the raw surface above-mentioned, an oval aperture, capable of admitting of the introduction of the little finger, led obliquely downwards and backwards into the cavity of the urinary bladder. Through this aperture the urine flowed; but the openings of the ureters could not be seen externally, nor was there any protrusion of the bladder itself.

The surface, as far as the pubis, was abraded, and, in its lower portion,

rather deeply ulcerated. Directly below this the penis projected, being about an inch and a-half in length superiorly, furnished with glans and prepuce, and connected to the lower and right margin of the vulvoid-shaped surface already mentioned, by a process of skin which resembled the cicatrix of a burn.

On the dorsum of the glans, and about half-an-inch behind the orifice of the urethra, there was a longitudinal slit, into which a probe could be passed to about the depth of a line and a-half, and which, no doubt, from its appearance and position, was an approach to the epispadias usually seen in this situation in the cases which have been examined. The orifice of the urethra was natural, the canal was itself pervious, but contracted, and the bulb and corpus spongiosum present. The crura penis took a more transverse direction than in the normal state. The prostate gland was small and atrophied.

On each side of the root of the penis were two prominences, produced by the subjacent testicles, which had not quite descended into the scrotum. The scrotum itself was contracted, and, about two inches below the root of the penis, presented, in the median line, a sulcus into which the little finger could be introduced as far as the root of the nail. The anus, much in front of its usual position, was not more than half an inch from this portion of the scrotum. The testicles were small; the vas deferens took its natural course to the side of the verumontanum, and the vesiculæ seminales were well developed. The bones of the pubis, between which there was an interval of three quarters of an inch, were connected by a strong ligamentous substance.

On viewing the bladder from behind, the obliterated umbilical arteries were seen terminating opposite the superior margin of the congenital aperture already mentioned. The bladder was small, and not capable of holding more than an ounce of fluid. On each side, opening into the cavity of the viscus, were the papillary orifices of the ureters; their tubes were much dilated; the kidneys were large; the left contained several small abscesses, and the pelvis of the right was filled with a puriform fluid. The peritoneal pouch reached to within half an inch of the verge of the anus.

Dr. Banon dwelt on the peculiarities of this case as compared with the recorded dissections of other examples of this remarkable congenital defect. The presence of a urethra leading to the bladder, not imperforate, but so contracted as not to have allowed of the passage of urine during life, was a singular circumstance. The nature of the opening in the hypogastric region and the non-protrusion of the bladder were likewise remarkable, and calculated to induce the surgeon to attempt a cure by operation. The state of the patient's health, however, would not have permitted of surgical interference. The low descent of the peritoneum

between the bladder and rectum would have caused its being wounded had Dr. Lloyd's proceeding, of attempting to form a recto-vesical fistula been followed in this case.—*December* 19, 1863.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.[a]

TWENTY-SIXTH ANNUAL SESSION, 1863-64.

DR. DENHAM, President.

ADDRESS OF DR. BEATTY, PRESIDENT FOR THE PAST SESSION, ON RESIGNING THE CHAIR.

The Dublin Obstetrical Society assembles to-night to commence its Twenty-sixth Session, and it must afford great pleasure to all who take an interest in its welfare to witness the large attendance of members and the numerous and distinguished visitors who have done us the honour of assisting at this our opening meeting. It has been so recently my privilege to address this society, and, in doing so, to take a hurried glance at some of the improvements introduced into our art during late years, that I feel it is not incumbent on me, neither would it be profitable to my hearers, that I should take any wide range upon the present occasion. It strikes me that by giving a short account of how I have been occupied, and what I have seen, and what I have done in the cause of science since we last met, in the month of May, I would not occupy the time unprofitably. It will be in the recollection of those who did me the honour to attend our first meeting, last November, that I dwelt at some length upon the modern operation for the relief of women suffering from disease of the ovary; and I spoke in commendation of the proceeding. My address was published in the Feb. Number of *The Dublin Quarterly Journal;* and, having obtained some separate copies of it, I sent it to many of the members of the Obstetrical Society of London; among the others, to Mr. Baker Brown and to Mr. Spencer Wells, to both of whom I wrote, stating the interest I took in the operation, and the desire I had to witness it in their hands. I was most anxious to seize every opportunity to educate myself and become familiar with the operation, because of a case of the disease which I had seen a few months before in a lady, sent up to town by Dr. Mackesy. When I first saw the case it was in the incipient state, and I sent the patient back to the country to wait its development. I thought it one very likely to succeed after operation, and I knew the time was approaching when she would return to Dublin in hopes of having something done for her relief.

[a] These Reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

I had not long to wait before my wishes were gratified, for on the 20th of May I received a letter from Mr. Spencer Wells informing me that he had a case on which he intended to operate on the 23rd. I started for London on the night of the 22nd, and was most kindly received by Mr. Spencer Wells on the morning of the 23rd. I found the case on which he was about to operate was that of an Irish lady, twenty-three years of age, two years married, and without family. I was greatly struck with the precautions taken by Mr. Spencer Wells to secure every chance for the recovery of his patient. Instead of having her located near his own residence, where he could visit her frequently after the operation, without much inconvenience, he had her placed in a most healthy district on the confines of the city, with free country air about her, and not less than three miles from his house. A most experienced and valuable nurse, who had been in charge of many of his previous patients, was in attendance. A portable table of the proper height and width, with movable legs and folding joints, and thus easily carried, was sent from his house to that of the patient. The temperature of the atmosphere was, at the time, very high, nevertheless a fire was lighted in the bed-room to secure a sufficient amount of warmth during and after the operation. All this was done by Mr. Wells' assistant and the nurse, and everything was ready when he and I arrived at the house, about two o'clock. There were present the operator, his assistant, two medical friends, and myself; five in all. Mr. Spencer Wells lays great stress upon the advantage of having but few persons present at this operation. The patient was clothed in a dress of new flannel, with flannel drawers and warm stockings. She was placed on the table, on which a mattrass and blankets had been arranged, and then a waterproof sheet, with an aperture in the middle sufficiently large to allow the prominent abdomen to protrude through it, was carefully adjusted to her person. This was done by having the inner edge of the aperture smeared with fresh adhesive plaster, which, when pressed down on the skin, adhered all round, and the cloth hanging down over the side of the table effectually guarded the patient against any fluid that might run down during the operation, and thus secured her being perfectly dry when removed to bed. Chloroform was administered with Dr. Skinner's apparatus, which I then saw for the first time. It is a most simple and admirable contrivance, producing full effect with the smallest amount of chloroform, and guarding against danger by the free admission of atmospheric air.

The assistants were arranged in their places before the operation was begun. The gentleman who was to make pressure on the abdomen when the cyst was being extracted stood at the left side of the patient, near her head. Mr. Wells stood on the right side of the table below the patient's hips. I was placed on his left hand about the middle of the table, my office being to guide the India-rubber tube of the trocar into

the vessel prepared to receive the fluid when the cyst was pierced, and to take charge of the cyst as it was extracted, and to support it when fairly out, so as to prevent straining of the pedicle. When all was ready Mr. Wells made an incision through the integuments about four inches long, beginning two inches below the umbilicus, and extending towards the pubes. Successive layers were divided with the greatest caution, on a very broad director, and finally, the peritoneum, having been raised on the instrument, was cut through. The cyst, of a dull white colour, now presented itself. The director was passed in between it and the peritoneum, and moved freely round in all directions, showing that no adhesions existed on the anterior part of the tumour.

The cyst was now perforated with a trocar of Mr. Wells' contrivance. It consists of a hollow cylinder, six inches long, and half an inch in diameter, within which another cylinder, fitting it tightly, plays. The inner one is cut off at its extremity somewhat in the form of a pen, and is sharp. This sharp end is kept retracted within the outer cylinder by a spiral spring in the handle at the other end, but can be protruded by pressing on this handle when required for use. When thus protruded it is plunged into the cyst up to its middle; the pressure on the handle is taken off, and the cutting edge is retracted within its sheath. The fluid rushes into the tube, and escapes by an aperture in the side, to which an India-rubber tube is attached, the end of which drops into a bucket under the table. The instrument is furnished at its middle with two semicircular bars, carrying each four or five long curved teeth like a vulsellum. These teeth lie in contact with the outer surface of the cylinder, but can be raised from it by pressing two handles. When the cyst begins to be flaccid by the escape of the fluid, these side vulsellums are raised, and the adjoining part of the cyst is drawn up under the teeth, where it is firmly caught and compressed against the side of tube. As the cyst continues to empty it is slowly drawn out of the abdomen. In this case there was no adhesion, and the whole cyst came out without any difficulty. The pedicle was about four inches long and two inches broad. The uterus and the other ovary were drawn to the surface and examined. It was well it was so, for on the surface of the ovary a vesicle of the size of a small grape was found, full of clear fluid; this was freely cut open, and returned. The pedicle was now enclosed by a clamp of Mr. Spencer Wells' contrivance, the advantage of which consists in its being furnished with long and strong handles by which firm pressure on the pedicle can be made; and when the clamp is secured by the screw provided for that purpose, the handles, being movable, are taken off, and the clamp remains at a right angle to the wound in the abdomen. Silken ligatures were used in closing the wound—three deep and two superficial. In passing the deep suture he dipped his needle purposely through the peritoneum on both sides. He was led to adopt this by the results of experiments on living animals.

He had found that after making incisions into the abdomen; such as were closed by sutures, not including the peritoneum, were followed by adhesions of intestine or omentum to the inner surface of the wound, and thus much subsequent distress was produced. While in those in which the peritoneum was included the union was more rapid, no such adhesions took place; and the serous membrane being the first part to unite, all chance of pus making its way into the abdomen was prevented. The sutures being completed, the cyst was cut away near to the clamp. Three or four long and broad straps of adhesive plaster were placed across the abdomen, over the wound, and a thick layer of soft cotton was laid over all.

The bed was prepared with hot bottles in various positions, and a broad flannel bandage laid across. Into this the patient was lifted (the apron previously described having been removed from the abdomen), the bandage was carefully adjusted, and she slowly recovered from the effects of the chloroform. Hot bottles were applied to the feet and along the sides. Abundance of blankets were put over her, all for the purpose of inducing and keeping up free perspiration. The urine was drawn off every six hours by the catheter. The patient progressed steadily; she never suffered any pain after the operation; she got no opium; and she returned to Ireland, quite well, in five weeks.

The next case of ovarian disease that came under my notice was that of a young and unmarried lady, whom I saw in consultation with Dr. Brady, of Harcourt-street, on June the 1st. She had been already twice tapped, and the quantity of fluid was now very great. She was very anxious for relief by tapping, and I removed a very large quantity of dark coloured fluid. There was very little of solid tumour to be felt after the operation.

I considered this to be a very suitable case for ovariotomy, and expressed a strong opinion to that effect, leaving it to her and her friends to decide before the tumour should fill again. It chanced that this lady and her family were intimately acquainted with Dr. Griffith, the resident surgeon in Mr. Baker Brown's Hospital (The Surgical Home) in London. This gentleman, having been communicated with, came over to Dublin about the time she was filling up, and removed her to London, to be operated on by Mr. Baker Brown.

On the 5th of August I received a kind letter from Mr. Brown, telling me he intended to operate on the 8th. I left Dublin on the evening of the 7th; I arrived in London on the following morning; was present at the operation that day; I left London the same evening, and was in Dublin on the morning of the 9th; having been just thirty-six hours away. I was greatly pleased with my visit to The Surgical Home; it is a beautiful institution, situated on Notting Hill, in the confines of London, in an extremely healthy locality. It is intended for ladies of

moderate means. The charge to each patient is from one to three guineas a week, according to the accommodation required. There is, in addition, a private house, within two doors of the Hospital, where patients pay five guineas a week. In this latter I found my former patient—happy, cheerful, and full of hope. She gave me a striking illustration of her contentment and resignation prior to the operation. "I know," she said, "the dangers and the chances, and I am ready to abide the result; it is one of two alternatives, health or heaven." It happily turned out that health was her reward. The nurse who was to have charge of her had herself undergone the operation two years previously. One can imagine the amount of confidence this was likely to inspire. Before removal from her bed to the operating table a wine-glass-ful of brandy was administered. The chloroform was given on a folded towel. The incision was similar to that described above. Mr. Baker Brown uses a trocar of a very simple kind. It is a plain tube, six inches long, with a sharp-cutting pointed edge at one end, and to the other is attached an India-rubber tube to convey off the fluid into a bucket. When the cyst became flaccid Mr. Brown seized it with a vulsellum, and drew it gently out. There were two small adhesions to the omentum, and these were tied with silver wire, and cut across, the wire remaining in the abdomen. This is not productive of any ill effects. The nurse in attendance had, I was informed, five similar pieces of wire in her peritoneum without having suffered any inconvenience. Mr. Baker Brown used the common carpenter's callipers as a clamp to the pedicle. The cyst was then cut away. He employed silver wire to close the wound in the abdomen, and applied water dressing over it. This patient went on favourably for a fortnight, when a very unexpected sinking and collapse set in, bringing her very near the grave, from which she was rescued by enormous doses of brandy and other stimulants. She is now back in Dublin, and was seen by Dr. Brady yesterday, quite well.

Previous to my going to London to assist at the operation just described, the patient of whom I have already spoken as having been sent up to me by Dr. Mackesy, and whom I sent back to the country in order that the disease should ripen, had returned to Dublin. The cyst had now become full, and was evidently unilocular, without any solid constituents. Her health was good; she never had suffered pain in the tumour; her age, forty-five years; and menstruation had ceased. Under these circumstances I advised the extirpation of the cyst, and proposed to do it. My intention was, however, frustrated. It appeared that a female friend and relation of the lady, who resides in England, had communicated with Mr. Spencer Wells about the case, and it was finally arranged that he should come over and perform the operation. Although I was very much disappointed at the time, I could not blame the parties for their anxiety to secure the services of a gentleman who had so often performed the operation with success. The

operation was fixed for the 18th of August; and on that morning, at eleven o'clock, it was done by Mr. Wells, in the presence of Dr. Mackesy, who came from Waterford, Dr. Gordon, Mr. J. G. Beatty, Dr. Macnamara, and myself. The precautions of warm room, warm clothes, &c., as previously described, were all taken, and the same nurse who attended the first case I saw Mr. Spencer Wells operate on in London had come with him to take charge of this lady. Chloroform was given by Dr. Macnamara, with Dr Skinner's instrument, which I had brought from London, and was now used for the first time in Dublin. The operation was a *fac simile* of the one in London. There was no adhesion, and the cyst came out without any difficulty. The patient never had a bad symptom; she required no opium; the clamp was removed on the fourth day; the wound healed kindly; she was allowed chicken on the fifth day; she was walking about her room in three weeks; and she returned to the country in seven weeks; having been out in a carriage for a week previously.

On the day that Mr. Spencer Wells performed the operation just described he was consulted by Dr. Gordon on a case of ovarian dropsy in a young lady, a patient of Dr. Gordon's. The case was not a favourable one, inasmuch as great pain had been experienced in the tumour, and evidently inflammation had existed from time to time. Mr. Wells operated on this case on the 20th of August. There was nothing untoward in the operation; but the patient commenced moaning immediately after recovering from the effects of the chloroform. She complained of severe pain; and vomiting soon began. Opium failed to relieve her, and she sank in fifty-six hours.

On the day after the last operation a case was submitted to Mr. Wells for examination, in the Adelaide Hospital, by Dr. A. Walsh. It was judged to be a fit case for operation, and on the following day Dr. Walsh performed it in the presence of Mr. Wells and myself, and his colleagues in the hospital. I lent my instruments to Dr. Walsh for the purpose, and all the steps of the operation were gone through in a very masterly manner, so much so as to elicit the commendations of Mr. Spencer Wells. This patient made a good recovery from the operation; and, as the case will be given at full length by Dr. Walsh, I will make no further allusion to it.

Another case was submitted to the inspection of Mr. Wells, by Dr. Hutton. This was one in which much pain had been felt at various times, and the constitution of the patient was a good deal impaired. Mr. Wells came back to Ireland in a month and performed the operation, at which I was present, along with Dr. Hutton, Dr. Gordon, and Dr. Macnamara. There was the same ominous moaning after recovery from the chloroform, and the same course of pain—vomiting and sinking, and death in fifty-six hours.

The last case I witnessed was that under the care of Dr. M'Dowel, in the Whitworth Hospital. This was one in which all seemed very favourable, and all the steps of the operation were performed smoothly and satisfactorily until the tumour came to be drawn out, when most extensive adhesions were found all over the surface in front and at the back. Those in front were broken through with the hand, and the greatest difficulty was experienced in getting the posterior surface detached. In doing so a large mass of scrofulous glands was found, and, a large abscess was torn through, giving exit to a considerable quantity of purulent matter into the abdomen. The moaning commenced at once after she was placed in bed, and she survived until the fourth day. As this case will, no doubt, be published by Dr. M'Dowel, I will make no further comment upon it.

I have thus, in the space of five months, assisted at seven ovariotomy operations, in four of which recovery took place, and in three death was the result.

I will conclude this part of my observations by saying that the operation is still in its infancy in this country, and still on its trial. There is much to learn yet in the matter of diagnosis; for, I am quite sure, that if we had the means of discerning those cases with extensive adhesions like the last described, and avoiding them, the mortality in cases favourable for operation would be much less. I now pass on to say a few words respecting the proceedings of the society since I had the honour of being placed in the chair:—

During the session there were six nights of business; and we were favoured with twenty-two papers, all of them of the highest interest; and, taken in connexion with the free and fair discussions that followed each, they could not fail to impress the hearers with their great value and importance. To particularize any for special praise where all were so good would be a most invidious task; and, to give even a short *resumé* would be worse than tiresome. I have adopted what appears to me a more useful course—I have thrown them into groups, without reference to the time at which they were read. By this will appear the subjects that have occupied our attention during the past session. First, on the important subject of stone in the female bladder and the modes by which it either escapes or can be removed from that organ, there were four papers:—1. By Dr. Byrne, who exhibited a very large calculus expelled by the natural efforts from the female bladder. 2. By myself, when I brought before you a very large and remarkably-shaped calculus, in like manner passed through the urethra after intense suffering. 3. By Dr. Banon, whose communication was accompanied by the exhibition of two large calculi—one expelled through the urethra by the unaided action of the bladder; the other having made its way, by ulceration, through the coats of the bladder into the vagina. 4. By Dr. Quinlan,

on the mode of removing such calculi from the female bladder by the operation of lithotrity or crushing the stone. We had two papers on diseases of the ovary:—1. By Dr. Byrne, a case of double ovarian disease, in which hydatids were expelled from the uterus. 2. By Dr. Foot, on fatty tumours of the ovaries.

Two papers relating to affections of the vagina were read:—1. By Dr. Kidd, who exhibited a pessary that he had removed from the vagina where it had lain for thirteen years. 2. By Dr. Churchill, on a case of cystocele, treated by a modified Hodge's pessary. In connexion with the condition of the embryo before birth, we were favoured with two papers:—1. By Dr. M'Clintock, on dropsy of the ovum. 2. By Dr. Sawyer, detailing three cases of unusual density of the amnion. Dr. Denham made a communication, and produced a large fibro-sarcomatous tumour which he had removed from the uterus by the écraseur.

As might be expected, the papers respecting the process of parturition were the most numerous. 1. A valuable paper, communicated by Dr. Murphy, Professor of Midwifery in the London University, and formerly Assistant Physician to the Dublin Lying-in Hospital, was read by the Secretary. It contained two unusual cases: one in which spontaneous alteration of the position of the child took place, during labour, from the presentation of the head to that of the breech; the other, a case of placenta previa, where the placenta was extracted before the child, and the child was born alive. 2. Dr. Cronin read an interesting report of some cases of delivery by the forceps. 3. Our able, valued, and efficient Secretary, Dr. Kidd, made a communication on the mechanism of the expulsion of the head in face to pubes presentations. 4. Dr. Denham detailed the particulars of two cases of dangerous uterine hemorrhage. 5. Dr. Kirkpatrick exhibited the recent preparation of a case of uterus ruptured during labour. 6. Dr. Kirkpatrick produced for inspection a specimen of a very large nevus on a child recently born. 7. Dr. Quinan brought under our notice a very remarkable case of monstrosity in a new-born child.

On the subject of diseases we had three papers. 1. By Dr. Henry Kennedy, on scarlatina. 2. By Dr. Halahan, on scarlatina as affecting puerperal women. 3. A very valuable and important paper, by Dr. De Ricci, on the use of the sulphites and bisulphites in the treatment of zymotic diseases. All of these papers, with a few exceptions, have been published in the Transactions of this society in *The Dublin Quarterly Journal*, where they form a good record of what has been done in the Dublin Obstetrical Society during the session of 1862–63.

It augurs well for the vitality and stability of an institution when it is so manifest that increasing years do not diminish the interest felt in its prosperity; and it affords a well-grounded hope that, in the next quarter of a century, the same vigour of mind, the same perseverance, the same

love for, and determination to advance the objects of this society, may be as fully displayed as they have been during the twenty-five years of its existence that are terminated this night.

It has been often remarked, and, I am sorry to say, too often with justice, that there is in the Irish character a want of perseverance in carrying on societies formed for scientific purposes. Many such have started up, and, from the talent and energy displayed at the outset, have given promise of lasting value and endurance; but, after a few years, the interest flagged, one by one the most vigorous supporters grew weary, the members abandoned the meetings, and after a brief struggle the doors were closed. I am happy to say that has not been the case with this society; for, after a very distinguished career of twenty-five years' duration, we find it more flourishing, and with a far larger number of members and energetic contributors of papers, than it could boast of at its commencement. That it may long continue its course of usefulness is my most fervent aspiration; and that it will do so we have a strong guarantee in the names of those to whom you have entrusted its management. If anything was wanting to exhibit the judicious care with which your committee discharge their duties, you would find it in the selection they have made of a member to succeed me in the chair which I have had the honour to occupy during the last year. They have chosen him who holds the honourable and important distinction of Master of the Dublin Lying-in Hospital. In this very onerous and responsible position the qualities of Dr. Denham shine conspicuous. Visited, almost daily, by foreigners of distinction, attracted from all parts of the world by the celebrity of the institution, none depart without admiration of the care and skill with which the establishment is, in all its departments, conducted, and charmed with the kind and courteous manner with which they have been received by the Master. In the hands of one so eminently qualified to fulfil the duties and adorn the situation I have no doubt this society will continue to flourish; and that when he comes to address you, at the termination of his year of office, he will have even a more gratifying account to give of its condition and proceedings than that which it affords me so much pleasure now to announce. With deep gratitude for the great kindness, consideration, and support with which I have been so largely favoured, I now resign this chair, and the office of President, into the hands of my more worthy successor.

Dr. Cronyn detailed a case of *Ruptured Uterus*, and exhibited the morbid specimens.

Ellen F., aged thirty, was admitted to the Rotunda Hospital, about 11 o'clock, a.m., on the 4th of December, and gave the following account of her case:—

She had seven children, five of whom were dead-born, and one of these had been delivered with instruments, in the Hospital, about ten years previously, by Dr. Shekleton.

Her present labour commenced forty-eight hours prior to admission, during which period she had been attended by a midwife. Her history, during those two days, is not clearly ascertained, but she distinctly recollected feeling something "give way," after which she quickly lost strength. This occurred on the morning of the 4th of December, two hours before she entered the house.

When first seen, after admission, the pulse was 120, and so weak as to be with difficulty counted. The exhaustion and general prostration were marked, and she bore the aspect of one suffering from extreme shock. Vomiting supervened in half an hour, and continued until a short time of death. The matters thus rendered were latterly stercoraceous.

On examination the os was found to be fully dilated, the head high, and stationary during uterine action. The contractions themselves were feeble and irregular. Fetal heart inaudible.

After consultation, craniotomy was deemed advisable, and immediately performed, and much difficulty was experienced in the extraction both of head and shoulders.

At the termination of the operation the patient was almost pulseless, and symptoms of collapse were markedly increased. She partially rallied under the copious administration of stimulants, but gradually sank, and died seventy hours after delivery.

Her strength, from the time of admission, was supported by stimulants and nutrients, freely administered; and during the progress of the case remedies deemed suitable to arrest the vomiting, such as opium, hydrocyanic acid, &c., were exhibited, but without effect.

On *post mortem* section—the peritoneal cavity contained from three to four quarts of sanguinolent serum. The membrane itself appeared generally roughened with recent deposit of lymph—slender bands of which extended to the intestine, and tied portions of it together at several places; but there was no occlusion of the bowel at any part.

A rent, extending obliquely through the cervix, in front and behind, nearly severed the uterus at its junction with the vagina. On careful measurement of the pelvis, the conjugate diameter was barely three inches, and the left oblique diminished by a long protuberance on the internal left of the sympisis pubis.

Dr. Walsh read the following case:—

Ovariotomy.—Jane M'Evoy, a spare, healthy-looking woman, aged forty-five, was admitted into the Adelaide Hospital, August 5th, 1863, under the care of Dr. Duncan. She had borne three children, the two youngest of whom, twins, were then nineteen years old. She had never

been pregnant since, but had menstruated regularly up to within a few days previous to her admission. Towards the latter end of November, 1862, she began to suffer from repeated attacks of palpitation of the heart, for which she was treated, with but slight relief. In January, 1863, she perceived a small swelling in the abdomen, about two inches to the right of the umbilicus, which was unattended with any pain or tenderness, and consequently gave little uneasiness. This rapidly increased, the direction of its growth being towards the middle of the abdomen, so as to occasion considerable alarm to her husband and friends. The heart symptoms disappeared in proportion to its advance. Dyspnea, on the least exertion, now set in, so as to incapacitate her for any active employment; and she was, in addition, much troubled with difficulty in passing water, never being able to void more than a few drops at a time, while the desire to micturate was incessant. The tumour continued to increase rapidly, giving rise to much dragging pain in the back and loins. At her admission it presented the following characteristics:— It extended from three inches above the umbilicus to within two of the pubes, measuring twenty-eight inches in circumference, and nineteen in vertical diameter. It rose abruptly almost at right angles to the abdominal wall. It was of a conical shape, flattened at the sides, the base being an oval, the long axis of which lay in the direction of the linea alba. Fluctuation could plainly be detected, and percussion gave a dull sound universally, except over the upper part, where the transverse arch of the colon, lying beneath, produced a clearer sound. Percussion of the left side was most markedly dull. No fluctuation could be detected here. Examination *per vaginam* revealed that the uterus was quite movable, and in a perfectly normal condition. The whole tumour was exquisitely intolerant of pressure, so much so, that the mere weight of the bed-clothes was at times unbearable. On the woman's endeavouring to raise herself in bed the recti muscles stood out in strong relief; the tumour descended regularly with the act of inspiration, and the parietes of the abdomen could readily be grasped and slid over it; the absence of superficial adhesions being thus indicated. The patient came up under the idea that she laboured under ascites, with chronic peritonitis, but Dr. Duncan speedily satisfied himself that the tumour was ovarian, and the case having been pronounced fit for operation, it was transferred to the surgical wards on August 17th, and placed under the care of Dr. Walsh, who, in consultation with his colleagues, resolved on removing the diseased ovary without delay. The consent of the patient's friends, as well as her own, was obtained; and the operation was performed on the 22nd of August, in the presence of the medical officers of the hospital, Mr. Spencer Wells, Drs. Beatty, Adams, Hutton, Smyly, Churchill, Sawyer, Ringland, Kidd, &c.

The temperature of the ward having been raised to 75°, and the air

moistened with the steam of boiling water, the patient, whose bowels and bladder had previously been emptied, was placed in a convenient position, and put under the influence of chloroform by Mr. Richardson; Dr. Walsh stood at the right side of the patient, and, with his left hand, pinched up about one inch-and-a-half of the integument, midway between the umbilicus and pubes; Dr. Barton doing the same on the other side of the linea alba. This fold Dr. Walsh transfixed, cutting outwards, making an incision three inches in length. He then, by means of Mr. Spencer Wells' director, dissected down upon, and opened the peritoneum. The cyst having been exposed, and easily recognized by its peculiar pearl-like appearance, he took the director and passed it between the tumour and abdominal parietes, examining for adhesions; not finding any he requested Dr. Gordon to make firm pressure upon the sides of the abdomen, so as to keep the tumour against the incision. He then punctured the cyst, plunging in a Spencer Wells' trocar and cannula, and drawing up the sac, until it was grasped by the hooks which surround the cannula. As the fluid, which was of gelatinous consistence and greenish colour, flowed out, the cyst was gradually raised out of the abdomen; but after five pints and a half of the liquid had been withdrawn, Dr. Walsh found it impossible to extract the remainder of the tumour. He then introduced two of his fingers and carefully examined for deep adhesions; not finding any, but discovering that the remaining solid portion could not pass through the incision, he deemed it necessary to enlarge the opening, which he did to the extent of one inch toward the umbilicus. The tumour was then easily removed, while Dr. Beatty supported it so as to keep any undue strain off the pedicle; the clamp was adjusted and firmly screwed up, and the tumour separated from its attachment. The remaining ovary was then carefully examined for disease, but was found healthy. The wound was then accurately closed by three deep sutures passed through its entire thickness at a distance of an inch from either edge, and enclosing half-an-inch of the peritoneum, and by two superficial ones through the integument only. Broad straps of plaster were placed across the abdomen, so as to support it, and the patient removed to her bed, which had been carefully prepared beforehand, and heated to a temperature of 98°. The belly was then covered with cotton-wool, and a laced flannel bandage adjusted. Jars of warm water, feet wrappings, &c., were provided to maintain the requisite heat; an opiate was administered, and all visitors excluded from the ward.

The pulse, 64 immediately after the operation, had risen to 86 by 10 o'clock, p.m. At that hour the skin was soft and moist, the countenance placid, and the patient free from any pain. The urine, amounting to ℥ vii., was drawn off by means of a catheter provided with an elastic tube, and directions given that the bladder should be emptied every sixth hour. The sp. gr. of the urine, which had been 1·025 in the

morning, was then 1·035, at which it remained for the next twenty-four hours.

Second day, August 23.—Slept quietly until 7 a.m. The pulse was then 60, full and soft; skin hot and perspiring. Ordered—barley water, a teaspoonful occasionally; and wine ʒ ii, diluted with water, every hour. Towards evening the pulse became weak and compressible, and fell to 55. No pain beyond the mere smart of the wound was complained of. The sp. gr. of the urine decreased to 1·032, and an abundant precipitate of purpurate of ammonia deposited. Skin acting freely.

Third day, August 24, 4 o'clock, a.m.—Having slept up to 3 o'clock, she woke and became very restless, complaining of pain in the abdomen and loins. Two hours after she passed a good deal of flatus from the bowels, which gave instant relief. Pulse, 72; full and soft; tongue, furred and white; sp. gr. of urine 1·031, and its reaction acid.

4 o'clock, p.m.—The lower strips of plaster were removed and replaced, and slips of lint, spread with simple dressing, placed between the clamp and the skin. The incision was found to have united down to the pedicle.

Fourth and fifth days.—On the 25th the two superficial, and on the 26th the three deep sutures, were removed. The pulse averaged 70, and the sp. gr. of the urine 1·030. Ordered strong chicken broth, to be sipped occasionally. Skin continues to act freely.

Sixth day, August 27.—A stout silk ligature having been passed under the clamp, and firmly tied, the latter was removed, and the pedicle dressed with water dressing. Immediately after she passed ʒ x. of urine, without a catheter; sp. gr. 1·028; pulse 74. Her improvement continuing steady, she was allowed arrow-root and toast on the following day—the 28th, and 7th of the operation.

Ninth day, August 30.—After passing an uneasy night, during which she complained of pain in the line of incision, matter was found to have formed in the track of the lowest deep suture. An enema was given, and half an hour after the bowels were well freed, for the first time. She then ate some chicken for dinner. Pulse 72. The allowance of wine increased from ʒ viii. to ʒ xii. daily.

Tenth day.—The next day (31st) she was allowed an egg and a mutton chop, and, towards the evening, ate six grapes. Three hours after the bowels were again freed. Grapes stopped.

Eleventh day, September 1.—Awoke at 6 a.m., complaining of uneasiness in the belly. Immediately after passed a large liquid motion; and again at 11. Pulse 70; sp. gr. of urine 1·025. Reaction, acid.

Twelfth day.—The bowels were not again moved until 9 a.m. the next morning. She then complained of a slight scalding at the orifice of the urethra, at the passage of the last few drops of urine, which was extremely acid. Ordered ʒ i. of the following, three times a day:—R liq. alk.

(Brandish), ʒ ii.; spir. ammon. aromat., ʒ i.; tinct. hyoscyami, ʒ iii.; aquæ ad., ℥ viii.; m.

Thirteenth day, September 3.—The *ardor urinæ* was less troublesome, the urine being alkaline.

On the 4th of September, the 14th day, the ligature round the pedicle came away, and the wound had entirely healed. A slight abrasion, beside the pedicle, continued to be dressed with unguent. zinci, for a few days.

September 5.—The pain at micturition continuing troublesome, she was ordered the dilute nitric acid, with pareira brava. The following day a small quantity of blood was detected in the urine, and, as it was possible that it might be owing to menstruation, the period of which was now due, a catheter was introduced, but the urine passed through it differed in no way, containing a quantity of blood and triple phosphates. Under appropriate treatment the patient improved up to the 20th of September, when she was suddenly attacked by a violent "tearing" in the left side, in the region of the ureter, accompanied with extreme prostration, ineffectual retching, cold clammy skin, and weak pulse. The urine was frequently passed with great pain, and in small quantities, mingled with free blood in abundance. Towards evening the pain suddenly abated, and she slept well. By October 5th she had so far recovered as to be able to be removed to the open ward. The urine then contained a considerable amount of blood, and its specific gravity 1·023. Ordered—tincture of the muriate of iron, in ten-drop doses, also two bottles of lithia water, with sherry, daily. The urine then commenced to clear, until on the 12th its condition was perfectly normal; sp. gr. 1·019.

On October 15th took a good deal of exercise about the ward. That evening she experienced considerable uneasiness about the neck of the bladder, especially after micturition, and with the last few drops of urine. The stream was also interruped when she attempted to pass water in the upright position. The following day these symptoms had entirely disappeared, and she mentioned that, during the night, while straining in the endeavour to micturate, she had felt something "give way." The vessel had, unfortunately, been emptied. She was carefully sounded again on October 17th, but on neither occasion was any calculus discovered. She was accordingly discharged on the 21st of October, cured.

She has since enjoyed perfect health, and is enabled to perform all her household duties.

The tumour was examined by Dr. Macallister, who gives the following description of it:—

"The tumour is oval in shape, and belongs to the class of cysto-sarcomatous growths. It is made up, principally, of one large sac, into which a series of smaller cysts project; each end is solid, and composed of fibro-cellular tissue.

"The smaller cavities do not communicate with the larger, nor do they

open into each other. The wall of the cyst is laminated, made up of layers of oval, singly-nucleated cells, interspersed with fibres. The inner side displayed a layer of ciliated epithelium. The solid extremities, when cut, showed a series of cavities, filled with a gelatinous, elastic, semi-solid, opaque substance, made up of cells. The stroma of this portion resembled fibro-cellular tissue."

It is not necessary to make many remarks upon this case, so ably reported by my pupil, Mr. Reilly; and it is not, therefore, my intention in the present paper to do more than point out some of the reasons which induced me to propose the operation, even though no previous treatment for ovarian disease had been resorted to; and also state those which, in my opinion, should influence others in the selection of the cases in which they would pursue a similar course.

In this city ovariotomy may be said to be as yet in its infancy, the present case being but the sixth in which it has been performed; but in England and America it is now so firmly established that surgeons no longer hesitate to propose it, even though the old routine of tapping, iodine injections, &c., had not been already tried. No doubt the operation has had, and still has, its opponents; and the large number of failures, in the most skilful hands and under the most promising circumstances, has given these gentlemen much apparent strength in their arguments against it. But when we consider that, when first proposed, the operation was thought of as the last resource, to be adopted only when all other means of curing the disease had been tried and found useless, and when the patient's constitution was already worn out, we at once see the fallacy of their arguments, and that the effects of the disease and too long delaying of the operation were taken into count against its usefulness. We cannot be surprised at the large number of unsuccessful cases which our early records show; but are rather astonished that the proportion was not much greater, when we find that out of 454 cases in which the operation has been performed in England, 251, or more than one-half, have recovered, and of 300 cases recorded in America 179 have proved successful. I think we have much reason to hope that when the diagnosis of the disease is better understood, and the peculiar forms of it suitable for operation more perfectly recognized, we shall be in the position to raise the number of successful cases so as to make the failures the exception.

Amongst the most frequent causes of death after the operation we find that peritonitis stands pre-eminent. Many reasons would lead us to expect this; but not the least powerful of these, in my opinion, is to be found in the amount of the previous treatment, in the way of tapping, iodine, and stimulating injections, the patient had been subjected to; and in the state of irritative fever to which she had been reduced before excision was undertaken. No doubt in some instances, notwithstanding the

greatest care, we find that cases which had every appearance of success failed, and the most unpromising sometimes have made good recoveries. But these are exceptional cases, and should only induce us to pay more attention to the diagnosis of the special form of tumour we have to do with, to enable us to the more clearly recognize, at the very outset of the disease, those forms of it in which all other treatment than that of ovariotomy is of no avail, nay, worse than useless, as tending to excite adhesions and set up an irritative state of the constitution.

The diagnosis of ovarian tumours, their nature, adhesions, size, and position is of the greatest importance to a successful result of the operation, and fortunately we possess many means by which we may arrive at a correct conclusion. Besides the history of the case, we have the physical signs it presents—the peculiar shape of the abdomen, which is found in all cases of ovarian disease—the size and form of the tumour—the effect of the act of respiration upon its position—its mobility and attachments—its connexion to, or freedom from, the neighbouring vital organs, liver, spleen, uterus—and its solidity and elasticity. By these means we can form an opinion as to the nature of the tumour; but much further inquiry, and far more particular investigations are required before we can say what are the cases suited for operative interference. For this purpose we must carefully examine, by percussion and palpation, into the consistency of the contents of the tumour—we must minutely explore, by digital examination, the rectum and vagina—we must examine and ascertain the situation, size, and form of the uterus, using for this purpose, when necessary, Professor Simpson's sound—and, finally, we must take into our serious consideration, the general appearance and constitutional state of the patient. In this, as in other capital operations, we are not likely to succeed wherever we have evidence of disease of the vital organs, the kidneys, spleen, liver, heart, lungs, or even chronic disease of the peritoneum; nor should we lightly propose the operation in cases of simple cyst, without first trying other means of relief. But even in those cases of simple cyst, when other treatment has been tried and failed, as well as in those cases where much constitutional disturbance has been caused by the size of the tumour, and its rapid growth, the operation should at once be proposed as the only means likely to give any permanent relief. The case I have now recorded was one of this kind. Here the operation was clearly indicated and urgently called for by the symptoms of the constitution giving way under the sufferings the tumour produced; and although she had not been subjected to any treatment whatsoever calculated to relieve the disease, we at once proposed the operation. Our reasons for doing so arose from the nature of the tumour, the rapidity of its growth, and the suffering it caused the patient. Upon close examination of the tumour it was evident that its contents were partly fluid and partly of a more

solid nature, tapping it, therefore, could only have afforded temporary relief, and this but of short duration, the average prolongation of life after such proceeding being somewhat under three years. In this case the rapid progress of the disease urgently called for interference.

Little more than eight months had elapsed from the time the patient first perceived the disease, and yet in that short period the abdomen had acquired somewhat of the size and appearance of pregnancy at the full term of gestation. The bladder and rectum were pressed upon, and their functions disturbed and interfered with. The greatest distress was caused by the mere bulk and weight of the tumour, and the patient presented all the signs of constitutional disturbance. With matters in this way, it was very evident that nothing short of removing the entire diseased mass could be of any avail, the operation was therefore undertaken, and with every hope of success. It was quite true, unforeseen obstacles might have arisen, adhesions deeply seated and organized might have required the use of the knife and the écraseur, and various other difficulties might have presented themselves; nevertheless, we determined upon operating, as the only means of prolonging life. I am happy to say, nothing of the kind occurred. Had the reverse been the case, I was prepared to break up the recent adhesions with my hand, and to destroy the firmer and more organized ones with the écraseur, to ligature with silver wire any troublesome bleeding vessels, and to dissect off the inner or secreting surface of the cyst from any portion of the tumour which might be found too firmly adherent to any important viscus. Had these adhesions been found to exist between parietal peritoneum and the tumour, converting them into a solid mass, I should then have adopted Dr. Bambridge's mode of treatment, and cut into the cyst, and so discharging its fluid contents, filled it up with a plug, so as to prevent the healing of the incision.

In performing the operation, I made the short incision, selecting it in preference to the major incision, for which we have so many advocates; my reason for so doing was, that the patient was thereby saved from the increased shock which the large incision is sure to produce, and that, if found necessary, there was nothing to prevent the enlargement of my opening. I commenced the operation by pinching up in the linea alba, about half way between the umbilicus and the pubis, but rather nearer the latter, a fold of loose skin and cellular membrane of nearly one inch and a half, and, transfixing it at the base, cut from within outwards. I thus formed an incision three inches long; this opening I had afterwards to extend towards the umbilicus, and in doing so I found no difficulty or embarrassment whatsoever. The incision being made, I ascertained by means of Mr. Spencer Wells' director, made for the purpose, that no adhesions existed anteriorly or at the sides, and I then proceeded to tap, using Mr. Spencer Wells' trocar, so admirably adapted for the purpose.

I was very anxious that due pressure should be kept up by my assistant upon the sides of the abdomen, to prevent the entrance of any of the fluid into that cavity. As the sac was thus being emptied, I slowly withdrew it. I found some difficulty to arise, not from any adhesions, but from the fact that some portion of the tumour was of a solid nature, and required the incision to be somewhat enlarged to permit its extraction; this being easily done, the entire cyst was withdrawn. Taking care that it was well supported—as cases have occurred where the weight of the tumour has torn across the pedicle—I proceeded to secure the pedicle with a clamp. I selected this means of doing so in preference to either the single ligature, which has so often slipped, or to the double one, by which the pedicle is transfixed and tied on either side, hemorrhage having not unfrequently followed from some of the vessels having been thus wounded. The pedicle was then divided with the knife about an inch below the clamp, and the tumour was removed. We next made a careful examination of the left ovary, which was found in an apparently healthy condition. In adjusting the sides of the incision great care was taken to apply the peritoneal surfaces, as recommended by Mr. Spencer Wells, for at least half an inch, and to secure them by silk ligature (pins or silver wire might be used); the deep and superficial stitches being then applied, the clamp was fixed transversely at the bottom of the wound. Very broad straps of adhesive plaster were applied from one lumber region to the other, and the whole secured by a carefully applied flannel bandage. In this case neither blood nor any of the ovarian fluid having escaped into the peritoneal cavity, it was unnecessary to sponge out that cavity; which must be carefully done with small well-washed sponges, should either or both of the above circumstances unfortunately occur.

The recovery of the patient progressed without a single drawback, if we except an attack of hematuria, produced by stone, which, however, did not interrupt the progress of the wound to recovery. Much of the success of this operation may, I think, be fairly attributed to the perfect freedom from adhesions and to the ease with which the entire cyst came away; for, when it is necessary to use much violence in breaking down old adhesions, &c., in removing the tumour, there is of necessity much greater liability to peritoneal inflammation, and this can hardly be well avoided; but I look upon the subjecting our patients to the shock and risk produced by that form of incision to which the term "major" has so correctly been applied, as a most unjustifiable proceeding, and one that should not be adopted in the first instance under any circumstances.

I have before mentioned that this was the sixth case of operation in this city.

1. The first was performed on a patient of Dr. Kidd's, in August, 1859, by Mr. Clay, of Manchester; the major operation was performed; death followed in twenty-four hours, from the shock.

2. Second, in March, 1862, by Dr. Kidd; minor operation; followed by death, from peritonitis, in twenty-four hours.

3. The third, in 1862, by Dr. Gordon; the minor operation was performed; death took place from hemorrhage.

4. The fourth, in April, 1863, by Dr. Kidd; the minor operation was also performed, but the tumour was not removed; this patient, however, recovered.

5. The fifth, in August, 1863, by Mr. Spencer Wells; in this the minor operation was performed with perfect success.

6. The sixth, the present operation.

Since which three more have occurred:—

1. The first, in August, 1863, by Mr. Spencer Wells; the minor operation; was followed by death, from peritonitis, in eighty-two hours.

2. The second, in September 1863, by Mr. Spencer Wells; the minor operation; followed also by death, from peritonitis, in forty hours.

3. The third, in November, 1863, by Dr. M'Dowel; the minor operation; also followed by death.

Thus, in this city, we have had nine cases, in one of which the major operation was performed unsuccessfully; the minor operation was performed in the remaining eight cases, with perfect success in two of these cases.

Dr. Beatty has observed that in all the fatal cases of peritonitis one symptom existed—that almost from the first incision to the last moment of life, there existed a peculiar low moan or cry. This occurred in the cases which sank rapidly as well as in those where life was prolonged for some days.

Dr. M. Ryan read *An Account of* 1,206 *Midwifery Cases, in* 977 *of which the Forceps was used* 101 *times, or about once in nine and a-half Cases.*

After some introductory remarks, Dr. Ryan proceeded:—I have at length decided upon coming forward, and telling the profession that I have used the forceps once in $9\frac{6}{9}$ of 977 cases; and this, in the first (mark you the first) series of cases in my private practice. I attended very many labours, as a student, in Dublin and London, and subsequently in the capacity of assistant surgeon; but the 1,206 cases now brought forward were the first in my private practice, and under my own management—229 of which were attended by me, without a knowledge of the utility of the forceps, and without its aid; and the remaining 977 were attended *with* the knowledge of the instrument, and its application whenever I considered it to be advantageous to the patient. There are a few hundred cases, attended by me, subsequently to these, which I hope, at a future time, to lay before the society.

1,206 *Cases of Midwifery, in* 977 *of which the Forceps was used* 101 *times.*

First Series of 229 Cases where the Forceps was not used—not having a practical knowledge of the Instrument.

Years	Number of Cases	Forceps used	Still-born without Forceps	Presentations, &c., of Still-born
1	36	–	2	2 Full term and nat. pres.
2	38	–	3	1 Do. do. 2 craniotomy.
3	64	–	4	2 Do. do. 1 hand; 1 six months.
4	36	–	–	
5	55	–	4	2 Do. do. 2 six months.
—	229	—	13	

Second Series of 977 Cases where the Forceps was used—having a practical knowledge of the Instrument.

Years	Number of Cases	Forceps used	Still-born with Forceps	Still-born without Forceps	Forceps Cases being Primiparæ	Position of the head wherein Forceps was used		Presentations, &c., of Still-born, where Forceps was not used
						In the Cavity of the Pelvis	Resting on the Perineum	
6	54	5	–	2	2	1	4	2 Full term and nat. pres.
7	61	3	–	3	1	1	2	1 Do. do. 2 six and a-half months
8	57	5	–	1	–	2	3	1 Placenta previa.
9	61	6	–	4	3	4	2	2 Do.; 1 funis; 1 full term and nat. pres.
10	29	3	–	3	1	3	–	1 Arm pres.; 1 seven months; 1 do. do.
11	92	7	–	1	3	5	2	1 Do.
12	92	9	2	4	7	6	3	1 Hand; 1 seven months; 1 funis; 1 full term and nat.
13	80	12	–	3	6	11	1	1 Do.; 1 funis and foot; 1 do. do.
14	107	13	–	2	6	12	1	1 seven months; 1 do. do.
15	104	15	2	5	9	13	2	2 Six months; 2 do.; 1 do. do.
16	84	9	–	1	4	8	1	1 Footling.
17	118	8	–	4	4	8	–	1 Funis; 1 hand; 1 six months; 1 do. do.
17½	38	6	–	1	3	6	–	1 Six months.
—	977	101	4	34	49	80	21	

I wish it to be distinctly understood, that I do not come forward here to recommend the use of the forceps once in nine labours; and I now warn young men, and older men, who may be unaccustomed to its use, of the dangers and difficulties that may result from its incautious application—but I do come forward to say, that I have done what I assert, and only hope that a relation of the facts which I shall lay before you, may help to remove from the minds of some practitioners a dread of the many ideal dangers associated with the use of the forceps, and that they may be induced to apply the instrument more frequently than they have been accustomed to do; and the result, I am sure, will be eminently satisfactory—assuming, of course, that the operator becomes *au fait* in its application and subsequent management.

It may be asked—"*Cui bono?* in this apparently excessive use of the forceps, we have done as well without it—excepting the loss of time to ourselves, which is not to be taken into consideration for a moment." To this question I would briefly reply:—"You might possibly do better;" and I would argue the point with such querists by saying, that I believe the pain of labour to be so exhausting that, when allowed to continue, you will very frequently have some species of bad result, either consisting of a tedious recovery, or the more serious consequence—an after illness.

This I have found to be my experience (by observations upon the treatment of others as well as upon my own) after twenty years of active practice; and I am strengthened in this opinion by no less an authority than Dr. Simpson of Edinburgh, from whose Obstetric Memoirs I shall read a passage—and which, I think, supports my argument in favour of quick and safe delivery; although his subject is anesthesia, nevertheless, you will see that it sustains me in my method of relieving pain:—

"Perhaps, as an apology for this indolence and apathy, some may be ready to argue, that pain and suffering attendant upon parturition is not dangerous in its results, however agonizing it may be to the patient during its continuance. But the argument is fundamentally unsound. All pain is, *per se*, and especially when in excess, destructive, and even ultimately fatal in its action and effects. It 'exhausts,' says Mr. Travers, 'the principle of life;' it 'exhausts,' says Burns 'both the system and the part;' 'mere pain,' observed Gooch, '*can* destroy life;' and the great pain of parturition is no exception to this general pathological law. For, in fact, the maternal mortality attendant upon parturition—regularly increases in a ratio progressive with the increased duration of the woman's sufferings.

"The statistical data of Dr. Collins, in his report of the Dublin Lying-in Hospital, afford ample proof of this general principle.

"According to calculations which I some time ago made from Collins' data, I found, that while in the women delivered in the Dublin Lying-in

Hospital, and whose sufferings were terminated within two hours, only 1 in 320 of the mothers died—where the labour varied in duration from two to six hours, 1 in 145 of the mothers died; in those in whom it continued from seven to twelve hours, 1 in 80 died; when it endured from twelve to twenty-four hours, 1 in 26 died; where it lasted from twenty-four to thirty-six hours, 1 in 17 died; and out of all those whose parturient sufferings were prolonged beyond thirty-six hours, 1 in every 6 perished."

The next question that may be asked is, what induced me to use the forceps so frequently? Well, I have no doubt that when you first read the heading of my paper, you came at once to the true conclusion, that I used the instrument, not only in what you understand by the term "difficult cases," but also as an ordinary mode of assisting the sufferer; and I was struck, some years ago, with the necessity for giving this help, if it could be done safely, by the fact that we accoucheurs sat, and some continue to sit, for hours and hours, with our hands in tenebris, ignominiously pretending to do something, and at a stage of the labour too, when the os was fully dilated, the external parts soft and dilatable, but the pains languid, nevertheless slowly, but very slowly, progressing. I have sat beside the poor sufferer under such circumstances, when I could lay hold of the head of the child between two fingers and thumb, some hours before delivery.

At length, I reasoned thus, and asked myself a question.

Let it be possible that a forceps were on the head of this fetus in utero, without pain or inconvenience to the mother, and that with each uterine contraction, a steady, synchronous force were used to assist in the expulsion of the fetus, is there any known physiological reason why it should not be done? This question, mark you, has reference solely to the subsequent condition of the womb, apart from the mechanical injury that might be done to that organ, or to the parts external to it—that is another question. And I further asked myself, would it (the assistance given) destroy or interfere with the tone or contractibility of the organ, or produce any state of it that might proximately or remotely be termed an ill consequence?

After mature deliberation, I decided that there was no physiological reason to prevent me giving artificial assistance; and the subject then, in my mind, resolved itself into a purely mechanical act, which, I concluded, if well done, would be a great boon to the mother, and in many cases would save the life of her offspring. I then began to use the forceps as an ordinary mode of help, and the result has more than surprised my most sanguine expectations.

One of the earliest good results that I experienced from its use was where there existed a soft, moist, cool, and dilated state of the parts, but pains inefficient, and at long intervals. I found that the mere contact

of the instrument, by reflex action, brought on such energetic and efficient pains, that no traction was needed by me, and the labour was terminated most speedily and satisfactorily to all concerned.

The next question that needs a reply is—what has been the result to the mothers? I answer, no deaths where forceps was used, no perineal lacerations, no vesico-vaginal fistula, or other injuries that might be looked for, where the instrument was so frequently applied. If even one death occurred to a mother, I conscientiously declare that I would not have come before you this evening, fearing that by my interference even that one life had been sacrificed. Another circumstance was very remarkable in my forceps operations, and that is, the recoveries were strikingly rapid, and the after-illnesses very rare.

The next question is—What has been the result as regards the children?

As the forceps is applicable in head presentations only, it will be requisite for us to make our deductions from these cases alone when judging of its utility in saving life and preventing after illness. I therefore have made out this analysis accordingly.

Analysis of the Still-born Children brought forth at Full Term, and Presenting Naturally:—

		Cases	
Still-born . . .	9)	229	Without practical knowledge of Forceps.
One death in		$20\frac{4}{9}$	

		Cases	
Still-born, Forceps *not* used, 10 do., Forceps used, 2	} 12)	977	With practical knowledge of Forceps, and used when the instrument was admissible.
One death in		$81\frac{5}{12}$	

Still-born Forceps Cases.

No. 1 Head, funis, left hand, and left foot presented.
„ 2 Funis.
„ 3 Nat. pres., no assignable cause for death.
„ 4 Do., aged 36, primipara.

Still-born Forceps Cases from all causes	Still-born Forceps Cases, Nat. Present.
4 in 977	2 in 977
1 in $244\frac{1}{4}$	1 in $488\frac{1}{2}$

You will see by it a very low mortality. I have no doubt that the apparent high mortality after the use of the instrument, as practised in times gone by, resulted from the fact that irreparable mischief was done before its application.

The next probable question that may be asked is—What time had elapsed from the commencement of labour to the period of applying the forceps? I think I shall satisfy you upon this point, although I adopted a time table peculiar to myself, and not the system usually employed in midwifery statistics, and headed "Duration of Labour." I do not think that a private practitioner can arrive at a definite knowledge, in a large number of cases, as to the time when labour really did commence. I tried it for seven years, and the result was so faulty and defective, that I adopted a plan, as I have said, peculiar to myself. In hospital practice, where there is a resident physician and staff of well-trained nurses and assistants, I dare say the absolute duration may be ascertained. To illustrate my meaning, as to the difficulty I speak of, I have asked the patient when labour commenced; she has replied, "a week." On examination I found from the state of the os that she was in error; they were not true labour pains. I left, and was sent for again in three days (the pains having continued), and she was confined. Now, if I had not examined her upon my first visit, on the latter occasion, I should err by taking her statement that the labour lasted ten days. Again, I have asked the question—when labour commenced? and have been answered, eleven, p.m. A nurse or bystander would correct the statement by saying, "I am sure, Mrs. A., you had labour pains on you at three o'clock." Again, I have been told that she had labour pains, continually, for a fortnight; and, in one instance, a woman had the appearances of being in labour seven weeks; and this latter case seemed to me to be a ten months' pregnancy.

In consequence of the conflicting statements spoken of, I discontinued to note down, in the ordinary way, the duration of labour, and adopted the following method:—If, upon first examining a patient, I found labour had commenced, I noted the time, accurately, and again when the child was born; and, if, after the first examination, I left her, and returned in four, six, or twelve hours, I always included the whole time, as if I remained with the patient from the commencement.

The extract from my midwifery case book will show 620 cases timed in this way, the duration of which averaged one hour forty-seven minutes. This method of calculation, I think, is more useful and applicable under the circumstances in which I come before you, because it shows the period of waiting before the forceps was applied. You will see in that paper several forceps cases of one hour, and half an hour waiting, and some even at a quarter of an hour.

The next query may be—At what period in the labour did I apply the forceps? and what were, in my mind, the indications for its use?

Well, the period when they were applied was, when the os was fully dilated or dilatable, the indications were, where I found impaction existing, of course I lost no time; where impaction threatened, I used

them; this latter indication, you will understand, could only be arrived at by an educated sense of touch; where active and progressive pains did not exist I used them, and where active pains did exist, but the progression slow, so slow as to lead me to compare one good pain with ten bad ones, I used them.

As I have said before, we have been abused for using the forceps, and our practice called—"meddlesome midwifery," with the corollary—"dangerous midwifery." But I have no hesitation in saying, most emphatically, that the persons who have so expressed themselves are not *au fait* at its use, or perhaps have never used it, and are, consequently, not competent to give an opinion.

The Editor of *The Lancet*, referring to fifty-eight cases of vesico-vaginal fistula, reported to London Obstetrical Society, says:—

"From the foregoing statistics it is evident that the causes of the lesion is protracted labour, and not the use of instruments or deformity of the pelvis, and, as a necessary conclusion, it follows, that vesico-vaginal fistula would scarcely or never occur if a labour were not allowed to become protracted; this is a point for the careful consideration of the society, and of practitioners at large."

Again, says *The Lancet* reviewer of *Dr. Bedford's Midwifery*:—"The author uses the hacknied phrase 'meddlesome midwifery, &c.,'" and with reference to that proverb, he says:—"We have no hesitation in saying, after considerable experience, that very much more mischief arises in this country, both to the mother and the child, from delay in using instruments than from their improper and unnecessary application.

"For example, we know of at least half a dozen cases of vesico-vaginal fistula which have been solely due to sloughing, produced by the too long and continued pressure of the fetal head upon the bladder, while we can only remember one case where there was even a suspicion that the unskilful use of the forceps caused this accident.

"We are free to confess our disbelief in all proverbial systems of treatment, and are sure that a feeling of reverence for the popular saying which has led to these remarks has done much mischief. The proverb is fit for the guidance of the opponents of chloroform and ovariotomy, as well as for unskilful midwives; but it will not be acted upon by those who think for themselves, and who have seen the misery and after suffering produced by a lingering or difficult labour, when the resources of art have been too long delayed."

I shall now conclude by acknowledging the difficulty that a private practitioner has to contend with; when he submits to the profession, a theory, or mode of practice which may be novel or apparently unorthodox, he is open to the charge of deceiving others; or being deceived himself by a blind enthusiasm. For my own part I feel that I cannot do more

than *say* what I have done, and offer extracts from my midwifery case book as the only additional proof.

There are some living medical witnesses, but distant from here, who could support me with oral testimony; and two Dublin surgeons, who lived with me as qualified assistants, namely, Surgeon Connell F. Loughnan, late of Gardiner-street, and another, now in Her Majesty's navy; and if any gentleman would invite me to attend, in a large institution, fifty natural presenting labours, to be treated *ut meus mos est*, and contrast them with fifty attended in the ordinary way, I need not say how happy I shall be to accept his invitation, saying, with Hamlet—"Bring me to the test and I the matter will re-word."—*9th January*, 1864.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.[a]

SESSION 1863-64.

Opening Meeting, November 25, 1863.

ANNUAL ADDRESS.

The President, Dr. Cummins, delivered the following address:—

Gentlemen,—We have met here this evening to inaugurate the seventh session of the "Cork Medical and Surgical Society," and I have only to point to the volumes of our published transactions to show that hitherto our labours have not been in vain.

Previous to the formation of this society, in the year 1854, a medical society existed in Cork, honoured by the names of many who, useful in their generation, have already passed to the reward of their labours. But we enjoy a more extended sphere of usefulness than did our predecessors, for the papers which are read in this room become part of the standard Medical literature of our country, and influence the high character which the Irish school of medicine has so long pre-eminently enjoyed. It behoves us, then, to bestir ourselves, to emulate the sister societies which exist in the metropolis and the provinces, seeing that the meetings of a scientific body like ours have an important bearing upon the interests of our noble profession, as well as upon the health and welfare of our fellow-citizens and friends.

Since the year 1854 about 163 papers have been read before this society, many of them illustrated by morbid specimens of disease and its complications. It would be impossible for me to give even a brief

[a] These Reports are supplied by Dr. Curtis, Secretary to the Society.

abstract of those papers, or a recapitulation of the varied lessons they have taught us, useful and interesting as it would be to do so.

A large proportion of the morbid specimens have been examples of perverted nutrition—cancer, tubercle, atheromatous and fatty degenerations, with the devastations, ulcerations, aneurisms, and ruptures of hollow viscera which follow in their train, have each taught us how disease, in triumphing over the strongholds of life, leaves traces of its ravages in death. They have proved how often the best directed efforts of the physician are baffled by influences which silently and secretly undermine the nutrient quality of that fluid which holds in solution the solid framework of the body, previous to its formation and subsequent to its metamorphosis, and they thus point out to us how important are those means which anticipate disease and restore nutrition in its earliest conditions of perversion, while yet subject to control.

The morbid anatomist who peers into the structural changes which have wrought the ruin of a once noble edifice must trace backwards, step by step, the series of operations which, commencing in some slight deviation from healthy nutrition, have culminated in the specimen before him, if he desires to apply the knowledge he has acquired to its great end, the preservation of human life. Could we become accurately acquainted with the cause of each individual degeneration, we might hope to prescribe for the morbid conditions of blood, which result in cancer, tubercle, amyloid, fatty, and atheromatous degenerations, with as much certainty as we do now for diabetes, scurvy, or acute rheumatism; but too often we have to prescribe generically rather than specifically, satisfied if by our advice we can favourably influence the general nutrition of the body, and thus indirectly control the morbid tendencies of disease.

Another large section of the specimens which have been laid before us have been effects of disordered nutrition, the various products of chronic and acute inflammation. We have examined solid and fluid exudations, and have seen specimens of ulceration and gangrene of vital organs, and we have heard papers read recording the successful treatment of inflammation by means which we believe to have an opposite effect on the system.

Thus, as well as in other ways, has been demonstrated the grand principle, the recognition of which has marked an era in our science—that acute diseases have a tendency towards cure, and that the physician should rather seek to guide Nature—to restrain her operations when excessive, and to assist them when too feeble—than officiously to oppose her indications. The application of this principle, long recognized regarding fevers, to local inflammations, has given rise to the animated discussions which have imparted a peculiar interest to the two last sessions of our society; and there can be little doubt that they have had a beneficial effect upon our practice, by removing or modifying early

prejudices in favour of antiphlogistic treatment. But there is a natural tendency in the human mind either to run from one extreme to another, or to become sceptical regarding everything, when a doctrine opposed to what had long been implicitly believed is demonstrated beyond the possibility of doubt; so that discussions, such as those I have alluded to, are very useful in modifying extremes, and leading towards the middle path, which is generally the safest.

The great question of the day—whether inflammation should be treated by support and stimulation or by moderate depletion—is still, more or less, *sub judice*. The professors of our universities and the leading clinical teachers in metropolitan towns are generally in favour of the former mode of treatment, and point to full records of cases in support of their opinions; while, on the other hand, there are many engaged in dispensary and private practice in the country who still believe the lancet a powerful auxiliary. In metropolitan hospitals acute diseases are generally met in more or less advanced stages, and in subjects habituated to stimulants, and depressed in vitality by the various unnatural conditions of their existence; while in the country disease is seen earlier, among a vigorous population, accustomed to simple modes of living and to out-door exercise. This may account, to some extent, for the opposite views held by practical men. But the pathology itself of inflammation points to the fact, that moderate stimulation and moderate depletion are not inconsistent with each other—that they may go hand in hand, the one or the other preponderating according to the stage of the disease and the habits and constitution of the patient; for not only is there a stage of local hyperemia, as one of the first events of inflammation, but among its earliest effects is found a diminution of all the excretions, inducing a *general* plethora of the blood vessels, which, in its turn, reacting on the local congestion mechanically increases it, and causes more rapid exudation, as well as a circumferential extension of the disease. This vascular plethora is most safely combatted by means which obviate its cause, such as diaphoretics, diuretics, &c.; but instances sometimes occur where—the function of some vital organ being compromized, or the local suffering intense—*rapid* relief is necessary, and then more direct depletion, by leeches or venesection, is called for.[a]

But every drop of blood taken from the system in acute disease, even when most necessary, must be looked upon as a serious loss—a loss which it is difficult to repair—as appetite, digestion, and assimilation are more or less in abeyance.

Under the most favourable conditions of acute disease the energies of

[a] The rapid relief afforded by venesection, when the right side of the heart is overloaded and its functions mechanically interfered with, in consequence of some obstacle to the pulmonary circulation, is an illustration of increased vigour, *directly* and *unmistakably* due to depletion.

life soon feel the want of a healthy nutrient fluid to supply their rapid waste;[a] how much more so when an extensive exudation requires to be organized before it can be absorbed and removed from the system. So that if we are sometimes obliged with one hand to relieve mechanical repletion of blood vessels by depletion, we must with the other afford our patient the nourishment and stimulants his condition demands. Thus the apparent anomaly of leeching and wine in the same prescription is not inconsistent with a scientific knowledge of disease.

The reports which, from time to time, have been made to our society of the epidemics which have visited our city and its environs, are most important. The exciting causes of these mysterious visitations as yet lie beyond the reach of scientific research. How generated, how wafted from country to country, what their physical and chemical composition, is still beyond the reach of our investigations; but we can accumulate facts for future observers, and we can confirm the great truths which are rapidly becoming household words—that ventilation, cleanliness, and all kinds of sanitary reforms are the Stygian waters which render mankind almost invulnerable to the most noxious pestilences. We can also mark the peculiar characteristics of each epidemic visitation, and thus learn how to treat it most successfully.

Obstetric reports also fill several pages of our Transactions. Several cases of operative and complex midwifery—including three cases of ruptured uterus and two of remarkable monstrosities—have come under our notice; while a series of cases of extreme abdominal lacerations have taught us with what impunity the peritoneum may be extensively opened, even by such coarse operators as cows' horns and butchers' hooks, tending

[a] The rapid destructive metamorphosis of tissue, which takes place in acute diseases, is another reason why an eliminating mode of treatment is called for. The accumulation of effete matters in the blood is the chief cause of typhoid symptoms complicating such affections. In his treatise on fevers, Dr. Murchison tells us, speaking of typhus:—"As in other febrile conditions, the increased formation of urea, notwithstanding the diminished supply of blood, is evidently the result of an exaggerated disintegration of the muscular and other nitrogenous tissues. As long as the urea continues to be eliminated by the kidneys its effects are comparatively trifling; but if the quantity be excessive, and, still more, if from any morbid condition of the kidneys, either antecedent to or resulting from the febrile attack, its elimination be interfered with, it accumulates in the blood, and gives rise to uremic (typhoid) symptoms. . . . . Indeed it is very probable that those symptoms, so characteristic of typhus, are, in a great measure, due to the presence of urea or of its derivitive, carbonate of ammonia in the blood; this supposition is confirmed by the ammoniacal nature of the exhalations," &c., &c. There are few acute diseases to which an eliminating mode of treatment is not more or less applicable in all their stages, to fulfil the several indications hinted at in the text. The debility which it is supposed to induce is a bugbear, which probably prevents its being more generally used in diseases of an asthenic type; but the day is not, perhaps, far off when asthenia will be attributed to blood impurity, and treated by eliminatives instead of, or as an adjunct to, stimulants.

thus to reconcile our minds to the formidable operation of ovariotomy, which has been so successfully performed in England, and is now advancing in this country. But I must pause in the pleasing task of reviewing our past works, as time does not permit me to allude to the many rare specimens that have been presented to us, to dwell upon the knowledge we have derived from them, nor to enlarge upon the lessons of caution, in diagnosis and prognosis, they have taught us.

Truly it takes a great man to be a great physician! It is only a great mind that can at once take in the minute details which the endless modifications of disease present at the bed-side and in the pathological theatre, and yet view with a comprehensive eye the functions over which life presides. The wonderful mechanism which, composed of ever-changing structure, is built up and pulled down from moment to moment, is subject to influences innumerable from within and from without, and each little molecule of which is so intimately connected with the other that the simplest deviations from its ordinary laws produces most complicated effects.

In performing the almost God-like function of ministering to the preservation of the Creator's greatest work the physician must look upon the system as a whole, a product of nutrition destined to last only a brief period, and then, decaying, give place to the material of renovation. He must study the various inlets by which nutriment is introduced, and the outlets through which the products of decay are removed; the various organs by which food is converted into blood; the means by which that fluid is purified; the forces by which it is driven into the blood vessels and drawn towards the tissues; the vital power by which each part appropriates its own pabulum, and builds therewith its specific structure; all the processes and silent influences which are subservient to a condition of endless change, as well as the all-pervading nervous system—the dwelling-place of the principle that presides over the phenomena of life, connecting the material and immaterial—must, each and all, occupy as large a share of his attention as the nosological arrangements by which he classifies and studies disease. And then the wide field of external circumstances which surround mankind, and influence health of body and mind, demand a careful scrutiny. Air and water, heat and cold, dryness and moisture, climate, electricity, magnetism, must all be looked upon in their various modifications as occasional sources of disease, and, when properly controlled and applied, as parts of the comprehensive system by which we preserve health and combat its derangements.

Great strides have been made of late years towards rendering our knowledge precise. The stethoscope, the microscope, the laryngoscope, the ophthalmoscope, the various specula with which to peer into the interior of the body, the chemical re-agents by which the excreta and the products of disease are analyzed, all afford information as to what is

wrong, which is half way towards setting it right. We have also progressed in the means of cure. The enlightened pathology of the day has taught us to influence nutrition in all its branches, to study the composition of the blood in its normal and abnormal conditions, and to supply it with chemical food when we find that it does not derive all essential ingredients from more palatable nutriment. For instance, if circumstances render the blood deficient in oil, albumen, fibrin, oxygen, iron, potash, soda, lime, magnesia, silica, manganese, or any other constituent, we are able either to supply a diet rich in the absent ingredient, or prescribe it more directly in some easily assimilable form. If, on the other hand, a poison, derived from within or without, circulates in the blood, we can either neutralize it by its chemical antidote or act on the organs through which it should be expelled from the body. If there is a deficiency in the solvent fluid by which digestion is accomplished, we can either stimulate the stomach to perform its functions or introduce into it the organic principle to which its normal power over food is due, in the shape of pepsine or rennet, derived from the stomachs of other animals. Our grand principle is, to find out what is wanting, and supply it—to discover what is at fault, and oppose it; and the therapeutic power which we wield is very varied, and in many cases very precise. We extend our studies to everything which influences the animal body, and we cull, from whatever source, the means of chasing away pain and restoring the sufferer to health.

Gentlemen,—I have dwelt at some length upon a few of the subjects which it is our duty to master, as it is important for us all to have full confidence in our own powers, in these days when many spend their time "in little else but either to see or to hear some new thing," and because it is due to ourselves to show that, like the good old Constitution of our country, our profession can progress without revolution—that, while we preserve the solid basis derived from the time-honoured labours of our ancestors, we can advance with the increased and increasing knowledge of the day.

So full, so complete, so endless are the studies of the physician—so highly cultivated must be his powers of observation, attention, and memory—that he has little time for the ordinary occupations and pleasures of life. His mind must be ever full of the great mission entrusted to his care—of the knowledge of the noblest work of the Creator which it is his privilege to acquire. Like the Great Exemplar of mankind, his province is to go about doing good. Friends may pity the enfeebled body, and extend their kindly sympathy to the over-taxed mind; they may watch day and night beside the bed of suffering, but it is upon the physician devolves the responsibility of directing the ministering hands; it is he who, under Providence, has the life or death of the patient under his control. But his reward is great when he beholds his science triumphing

over the last enemy of man, in the fierce conflict between life and death.

Gentlemen,—Let us in this room marshal the forces with which to combat disease. Let us each, at this the opening of a new session, determine to do something to advance our science, to strengthen each other's hands, to meet our responsibilities.

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

Hysterical Paralysis. By Dr. Cummins, the President.

There is no disease that causes more anxiety to the physician and requires a greater exercise of his judgment than that impressible condition of the nervous system, which, for want of a better name, we call hysteria. There are few of us who have not seen it simulate a variety of diseases: at one time fixing itself in a part with an obstinate pertinacity and a close imitation of more material disease, that makes even the most experienced physician doubt at times his own diagnosis; at another, flying from point to point, as if in mocking derision of ignorant dogmatism or inexperienced credulity; sometimes existing as an independent affection, over which the specific of the impostor or the confident assurances of the empiric can exercise a control, but more frequently modifying real diseases, and imparting to them a character far more serious than they deserve.

The advances which have been made in the art of physical diagnosis have enabled us to assign their proper place to many of the modifications of hysteria; but, unfortunately, there is a class of diseases which it often simulates, and which cannot be so easily distinguished from it.

Shut up in a bony cavity, unapproachable by the senses of sight, hearing, or touch, the diseases of the brain can only be discovered by their effects. When, therefore, hysteria simulates or modifies them, it is only a close and anxious scrutiny of each symptom that can lead to a correct diagnosis. I shall not apologize, therefore, for giving the following case in rather lengthened detail:—

F. H., aged twenty-five, dark hair and eyes, sallow complexion; at present servant in a respectable family, but during last summer served an apprenticeship to cooking, and did not enjoy quite as robust health as usual. She had, however, no particular ailment until the 24th of September, when, on passing from a hot kitchen to the open air, she caught cold and felt very unwell. Next day the catamenia appeared, rather scantily, at the regular period.

I saw her on the 26th, and found her in the following condition:—

Has not slept for two nights, and is feverish and restless, complaining

much of pain across the vertex; tongue furred posteriorly, red and dry at tip; vomits constantly; abdomen soft; bowels natural; urine plentiful, light in colour. I prescribed an emetic, some mild aperient medicine, and hot fomentations to feet, &c.

27th.—The report is that she slept well, and vomits only occasionally; headache much relieved; pulse quiet and natural; tongue improved. Towards evening vomiting became more frequent, and headache across vertex more severe. There is no great heat of head, but it is rolled constantly from side to side on the pillow, and there is extreme restlessness and some delirium; pulse soft and natural, about 70; tongue brown and dry; no epigastric tenderness; abdomen soft. Two leeches were applied to each temple, the skin was sponged with tepid water, and feet were well fomented.

28th.—Slept several hours, and appears quiet and refreshed; vomiting has almost ceased; pain of head is nearly gone, and there has been no delirium since; urine copious, and light coloured; bowels confined; catamenia, which had flowed scantily up to this time, have ceased.

29th.—Pulse 60, feeble; tongue moist and furred; skin cool; headache continues; vomiting has ceased; patient is weak and hysterical, frequently sobbing and laughing. Ordered chicken broth, a teaspoonful of brandy in arrowroot every three hours, and a mixture containing sal volatile. Towards evening, as pulse fell to 56 and headache was worse, she was given a fetid enema, and had pills of galbanum and colocynth at bed-time; the brandy was omitted.

30th.—Slept several hours; bowels still confined; tongue covered with soft fur; skin cool; pulse 56; pain of head has shifted to occiput, and extends along the upper part of cervical spine; there is no tenderness of the skin of the body; patient frequently sobs, laughs, and cries. An aperient mixture was ordered; and as soon as it operated freely the coat cleared off the tongue, leaving it red and papillated. In the afternoon the pulse had fallen to 50, and was very weak; headache across vertex had returned in a greatly aggravated form; there is no injection of eyes, no heat of head, and yet the head is constantly rolled from side to side on the pillow, and the pupils are dilated. A mixture of aromatic spirit of ammonia, with æther, was ordered, and Dr. William Townsend met me in consultation in the evening. She was then quiet; pulse 56, weak, and occasionally irregular, and indulging now and then in fits of hysterical laughter.

Three grains of hydrargyrum cum cretâ, with seven of Dover's powder, were given at bed-time, hot fomentations applied to feet as before, and the mixture continued.

October 1st.—Slept well, and appears better; headache much relieved; pulse 56. The mixture was continued, with the addition of small doses of iodide of potassium, and the pills repeated.

October 2nd.—Spent a bad night; no sleep; severe headache and delirium; complains also of some pains of back; urine high coloured. Ordered two grains of watery extract of aloes and one quarter grain of morphia at bed-time.

3rd.—Spent a good night, and appeared refreshed, comfortable, and in good spirits in the morning. I was unable to see her till noon, when she appeared weak and nervous, complaining of some pain, but quite rational; there has been no delirium since; pulse 60.

At three o'clock, p.m., she insisted on getting out of bed, and walked about the room in an excited maniacal manner. At four I saw her, when she was lying quietly in bed; pulse 50; skin cool and natural; pain of head much complained of, but quite rational; left arm partially paralysed, hand completely so.

Her friends now consented to send her into the infirmary, where she was treated, by Dr. William Townsend, with pills of Dover's powder and hyd. c. cretâ at bed-time, as before, and an ammonia mixture, &c., &c.

Change of air into the large airy ward of the hospital had an immediate effect; she steadily and rapidly improved, and was discharged, in about ten days, quite convalescent, and with perfect power over the paralysed arm and hand. The headaches continued to some extent after her return home, but at length yielded to change of air and shower baths. She is now quite well.

In the commencement this case had very much the appearance of fever of a gastric character, or of the early stage of one of the exanthemata; and probably it was at first a short feverish attack, perhaps a mild form of enteric fever, with an attempt at convalescence on the 29th. But the debility consequent on the illness, and the scanty menstruation it induced, favoured the development of hysteria, which then simulated cerebral disease so closely that, although a correct diagnosis was made, it was impossible to hold it with confidence.[a]

The suspicious symptoms were—vomiting, intense pain of head, rolling the head from side to side, delirium, restlessness, and a morbidly slow pulse (from 50 to 60). Opposed to these, we had absence of determination to head, copious limpid urine, and occasional hysteric paroxysms;

[a] During the earlier days of my attendance on this case I was uncertain as to whether it would not turn out a case of the enteric fever which is now prevalent; and it was a question, which I anxiously debated in my mind, as to whether I ought not send her to the Fever Hospital. The absence of quick pulse, diarrhea, abdominal fulness or tenderness, decided me against doing so. We have "seen how closely the symptoms simulated those of tubercular meningitis;" and we find Dr. Murchison writing that "greater difficulty is often experienced in making a diagnosis between tubercular meningitis and pythogenic (enteric) fever than, perhaps, any known disease. . . . A quick pulse, headache, delirium, vomiting, occasional remissions, and even partial palsy, are often met with in both diseases."

the first a negative, and the latter positive, evidences of the case being of a hysterical character.

Experience teaches us, however, that evidences of determination to the head are not necessarily attendant on severe and even fatal lesion of the encephalon or its membranes. I am about to lay before the society, this evening, the brain of a child, who died of hydrocephalus, although the advent of that treacherous disease was unmarked by any such phenomena. But to return to the subject of my paper. The case of F. H. was one which might have been supposed to call for very active treatment; for, if the train of symptoms I have detailed was indicative of cerebral disease, then it was certain that only prompt and decided measures could stay the progress of the case towards death or insanity; while, on the other hand, if the symptoms were, as I believed them to be, hysterical, then their rapid increase, and a subsequent career of nervous debility, rendering life useless and irksome, would probably have resulted from any depressing treatment. A short time since I attended a young girl, who was suddenly attacked with symptoms of acute gastritis, followed by a prostration so great that I dreaded perforation of the coats of the stomach. The disease was evidently of a hysterical character, merely simulating inflammation; but the pain and epigastric tenderness were so severe during the first few hours that I ventured on the application of leeches, which I believe were the means of entailing a new complication, as retention of urine, from hysterical paralysis of the muscular fibres of the bladder, or spasm of its sphincter, supervened. We cannot too carefully abstain from depressing agents in these affections, for, whatever be the pathology of a part affected by hysteria, its nerves must be deficient in vitality and disordered in their nutrition.

It is idle to suppose that hysteria is simply a disease of the will or emotions. It may be so in the slight paroxysms, which are transient as the causes which produce them; but there is something more in cases such as I have mentioned. What that something is I do not pretend to say; the *data* upon which to ground an opinion are insufficient. All we know is, that from imperfect nutrition a condition of certain nerves is produced, which renders them peculiarly susceptible to the reception of impressions, which are retained with undue permanency; that thus a condition of local irritation is produced, which is sometimes amenable to very simple treatment, but oftentimes baffles the best-directed endeavours of the physician.

Perhaps there is no agent which has greater power over hysteria, in all its modifications, than change of air. It often cures the disease as if by magic; and if, at the same time, we can obtain for our patient cheerful society, and other inducements to exercise, as well as a carefully-regulated course of hygienic treatment, the cure of the more chronic forms is almost certain. The Turkish bath, or shower baths, are often powerful

auxiliaries. The indications of treatment in acute attacks, such as my patient presented, are twofold, viz., to improve the nutrition of the body and to allay irritability by sedatives. A combination of these means had the happy effect of restoring F. H. to perfect health; and we have reason to congratulate ourselves that we did not fix her hysteria upon her by the depressing treatment which the head symptoms seemed to call for.

Case of Acute Hydrocephalus. By the PRESIDENT.

The brain which I lay before the society was taken from a little girl, nine years of age, who died this morning. Two of her sisters had previously fallen victims to cerebral disease; and the hope of saving the remaining members of a large and delicate family, in the event of their being similarly attacked, made the parents consent to my examining the body.

The history of the case was as follows:—

A. M., aged nine, clear complexion, light hair and eyes, was attacked, on the 5th November, by vomiting and headache, unaccompanied by heat of head or skin, or other feverish symptoms; the bowels were confined; the pulse soft and weak, ranging from 50 to 60; vomiting continued obstinately for four days, when it ceased, and did not return; headache gradually increased in intensity, affecting more especially the vertex and occiput, while from time to time it occurred in paroxysms so severe that the little sufferer cried out, imploring her mother to "squeeze her head," the pressure of which seemed to afford relief.

From day to day I watched this child anxiously, noting the morbidly slow pulse, and trying in vain to relieve the severe pain. There was constantly recurring constipation, and some delirium at night, but the former always yielded to medicine, and the latter was not persistent; the pupils were dilated, but contracted in strong light.

There was no injection of conjunctiva; no morbid heat of head or skin; no intolerance of light, and no other sign of disease except a slight cough. At last, on the 18th (thirteenth day), I found that the pulse had risen to 120, and that my little patient was feverish and more restless, with increased pain, referred especially to occiput. Soon my worst apprehensions were realized, for that afternoon a violent fit of convulsions occurred, and continued for two hours. When it passed away it was discovered that the left arm, leg, and corresponding side of body were paralysed. The mouth was drawn to right side, and there was marked strabismus.

Professor O'Conner kindly visited her, with me, on the 20th. She was then perfectly conscious, with pupils widely dilated and immovable, and the left side quite paralysed. There had been no convulsion since, but occasional tremors of the palsied extremities had been noticed.

On the 22nd the left side was convulsed at intervals, while tremors and contraction of the flexor tendons and muscles were continuous. Voluntary power had somewhat returned, and the pulse had fallen to 100, and was very weak; bowels have been freely opened by medicine; nourishment is readily taken.

On the 27th report states that patient is unconscious; tremors and spasms of left extremities continue; she lies entirely on the right side, moaning frequently; pulse 90, feeble, but regular.

Death took place on the morning of the 25th, the twentieth day from the commencement of her illness.

Dr. H. Hobart kindly assisted me, this evening, to remove the brain, which I now lay before the society. The arachnoid is glistening and transparent, except a small portion anterior to the pons varolii, which is opaque and lymphy. There is little or no fluid in the cavity of the arachnoid, and no sign of tubercular deposit on any part of the membranes. The pia mater is very vascular.

The hemispheres seem rather harder than usual, but the convolutions are natural. On cutting into the lateral ventricles we observe that their cavities are distended with clear serous fluid; that the optic thalami, corpora striata, fornix, &c., are natural, or perhaps a little softened, but not more so on one side than the other. There are no traces of tubercular deposit on the choroid plexus, or on any other part. The velum interpositum is somewhat thickened, and the third and fourth ventricles are distended with a fluid similar to that contained in the lateral ventricles.

The chief evidences of disease before us, then, are obscure traces of partial inflammation of the membranes, and effusion into the ventricles. I confidently anticipated finding extensive deposit of tubercle in the substance of the right side of the brain or on the membranes, but the closest scrutiny fails to detect any such lesion.

The *post mortem* reveals quite sufficient to account for the patient's death, but leaves us in doubt regarding the causation of the very remarkable train of phenomena presented during life, so that the interest which attaches to it is rather of a negative than of a positive kind.

The *denouement* in this case was very different to that of F. H., which I read in the early part of the evening; and, taken together, the interest of each is very much increased, for in both almost the only symptoms which caused anxiety were the vomiting, the severe persistent headache, and the slow pulse. In both cases the concomitant circumstances (hysterical tendency in one and strumous tendency in the other, &c., &c.,) enabled me to form a correct diagnosis; but in neither case did I hold it with sufficient confidence to free my mind from very great anxiety.

Case of Double Perforation of the Duodenum from Extensive Burns. By S. O'Sullivan, M.D., House Surgeon, North Infirmary.

Mary Bresnan, aged twenty-eight, married, was admitted into the North Infirmary on the 9th July, 1863, severely burned over face, neck, chest, arms, and fore-arms, and slightly over right hypochondriac region. She was burned to the fifth degree, according to Dupuytren's classification; over the chest, the charred slough extending nearly to the ribs. Her sufferings were intense. She became, occasionally, delirious, vomited, at first, a considerable quantity of porter, and, after some days, bilious matter. Bowels rather confined throughout.

By a liberal administration of stimulants and a generous diet, chiefly of a fluid kind, her life, which was every day gradually failing, was prolonged for nine days. She died on the 20th July.

Upon making a *post mortem* examination, about twelve hours after death, the organs contained in the chest were found quite healthy, notwithstanding the depth of the burns over this region. No examination was made of the brain. The colon, and the lower portions of the small intestines, were found healthy. There was a considerable accumulation of feces in the large intestine. The duodenum was found much diseased, the peritoneal coat peeling off quite readily. Two large perforations, each about an inch in diameter, with smooth organized edges, were found at the commencement of the descending portion, where the head of the pancreas rests against it.

The coats of the duodenum, at this part, were very thin, and several patches of inflammation were found in the mucous membrane around. For some distance from the seat of the perforation small vascular spots were found scattered over the peritoneum.

A Case of Maculated Catarrhal Typhus, complicated with Acute Laryngitis and with persistent Alkalinity of the Urine. By John Popham, A.M., M.B.; Licentiate of the King's and Queen's College of Physicians; One of the Physicians to the Cork North Infirmary.

Timothy Toomy, aged nineteen, shoemaker, was admitted, for profuse epistaxis, into the surgical wards of the North Infirmary on Monday, October 19th, 1863. He ascribed it to a wetting which he got the Friday evening previous, and which was followed by rigors. My attention was drawn to the case on Thursday, October 22nd, the seventh day of his illness, in consequence of his being covered with a copious rash all over the body, with the exception of the face. The rash was rose-red, slightly elevated, and completely disappeared on pressure—this was the first day of its appearance. He had a burning heat of skin, furred tongue, a pulse at 120, and the other usual symptoms of fever.

October 23rd.—He had a fair night; tongue dry, brownish in the

centre; slight sordes of lips; eyes heavy, pupils dilated; he had no headache since the epistaxis; pulse 124; expression of countenance scared and anxious. The spots were very closely crowded together, about thirty were reckoned within a circle of an inch diameter; they were most numerous on the back; some lenticular, others of irregular outline; some of them corymbose, fading on pressure; the intervals between the spots forming a diffused, dusky, redness.

Ordered to take an ounce of a mixture containing one drachm of nitro-muriatic acid to eight ounces of water, every four hours.

October 24th.—He passed a restless night; wants now to get up; face much flushed; pulse 120; cough, with rusty expectoration; the spots as before; urine in colour like a mixture of blood, with a ropy cloud suspended in it, sp. gr. 1020, strongly alkaline on adding hydrochloric acid it effervesced briskly, the floating cloud being dissolved, and the red colour becoming lighter; no albumen; bowels confined.

Ordered a turpentine enema; continue the acid mixture.

25th.—He was delirious last night, and tried to get out of bed; is disturbed by aural illusions, supposes persons are calling him; complains bitterly of pains in his limbs; pulse 130; sibilant râles all over the back; sputa are viscid, ropy, and tinged with blood; spots very thick on back, their colour is darker, having now a crimson tinge; they do not fade so much on pressure as before; conjunctiva muddy; urine just as yesterday. I examined a portion passed while I was in the ward, it sparkled freely on the addition of muriatic acid; a glass rod dipped in the acid and held over it elicited dense fumes.

Ordered six leeches to the temples, and the head to be shaved; instead of the acid mixture he is to take a table-spoonful every fourth hour of the following mixture, viz.:—Camphor mixture and liquor acetatis ammoniæ, each, ʒ iii. ss.; vini. antim., ʒ ii.; nit. potash, ʒ i.; syrup, ʒ vi.

October 26th.—Better night; less delirium, spots still out, they are very thick and vivid on the legs, almost resembling the diffused rash of scarlatina; less bright on the arms and chest; no longer raised above surface; pulse 124; cough frequent; expectoration difficult; the sputa are so tough as to require removal; breathing suspirious; both sounds of the heart audible; respiration is free anteriorly, but is marked by râles along the back, and obstructed at lower half of right side; bowels confined for two days; urine partly passed in bed; colour is less high; sp. gr. 1016, strongly alkaline, effervescing, as before; quantity considerable.

Enema terebinth; cont. mist. acet. ammoniæ.

October 27th.—Very delirious last night; got out of bed at twelve o'clock; slept towards morning; respiration twenty-eight while sleeping; pulse 120; bowels relieved; spots have become of a more livid hue, and

hard to be effaced; still numerous on back and feet; tongue dry and red; urine about forty ounces, sp. gr. 1016, high coloured, alkaline, and effervescing.

Ordered a glass of wine in his drinks.

October 28th.—He passed a bad night; had several slight rigors, and is now shivering; pulse 124, weak and soft; debility of legs and arms; passes urine partly involuntarily; spots still thick on body, dark, and permanent, more of a petechial character; tongue red; cough troublesome; sputa viscid, white, and frothy; urine alkaline and effervescing, sp. gr. 1018; left elbow very red.

Ordered to omit the mixture of aqua. acet. ammonia and antimony; ordered camphor mixture, ℥ v.; carb. amm. ʒ ss.; chloric æther, ʒ ii.; syrup, ʒ vi.; dose, ℥ ss. every four hours; wine, six ounces; blister between the scapulæ.

Evening.—Passed a fair day, but restless; pulse 124.

Ordered a night draught, containing eight minims of Battley's liquor, twenty of antimonial wine, and five grains of nitre; feet to be stuped.

October 29th.—Slept after the draught continuously for four hours, but moaned heavily; slept on and off since; cough to-day is severe; respiration is over forty and embarrassed; pulse 130; sordes of teeth; spots slightly fading on trunk, still vivid on legs; the intelligence most remarkable all along, he answers every question correctly; slight deafness; eyes injected; pupils at first dilated, are now contracted; sounds of heart distinct; some redness of hips and sacrum; complete dulness on percussion, and total absence of respiration throughout nearly the whole right lung posteriorly; urine alkaline as before, with a copious sediment of the phosphates.

Omit the mixture of carb. am. and chloric æther. Ordered decoction of senega, ℥ vii.; vini ipecac., ʒ ii.; carb. ammon., ʒ i.; syrup tolut. ʒ vi.; take ℥ ss. every three hours; wine, ℥ x.; chicken broth; a fly blister to the right side; the hips to be sponged with camphorated spirits of wine, and then dusted; an air pillow to be used.

30th, fifteenth day.—He bore the wine well; blister on right side rose; he was delirious last night, and tried to get up; is quite collected by day, so as to know the day of the week; asks every day "is he to be allowed up to-morrow;" pulse 120; spots still thick on back and abdomen, but fading in colour; cough constant, with viscid expectoration; bronchial râles heard in all parts of chest except along the right side posteriorly, where the respiration is nearly absent; urine alkaline and effervescing; on testing by heat it deposited a thick whitish sediment, which dissolved completely in nitric acid, it was so alkaline as to blue the litmus when reddened by sulphuric acid.

Ordered to continue the senega mixture; beef tea freely; wine ten ounces; dry cupping to the anterior surface of the chest.

October 31st.—On arriving this morning I found a great change for the worse; the nurse had left the window open over his head till midnight, and there was a heavy gale during the night; the consequence of this indiscretion was, that he has been attacked with inflammation of the larynx and trachea; he spent the night coughing incessantly and moaning; expectoration is frothy and tinged; voice scarcely can be heard; respiration stridulous; pain on pressing larynx; respiration over forty in the minute; spots much paler on the trunk, quite gone from the arms; the dusky interval between the spots has wholly disappeared; urine copious, colour lighter, alkaline and effervescing as before; dorsal decubitus; he cannot turn on the side, or rise without help; bowels free.

Ordered twelve ounces of wine, a pint of strong beef tea; the acetum cantharid. to be applied to the outside of the throat by lint soaked in it and secured by a bandage.

Evening.—The stridor of the cough and the respiration has greatly increased. Ordered a draught of ten minims of Battley and half a drachm of vin. ipecac. in camphor mixture.

November 1st, seventeenth day.—Got some sleep; is now asleep; the mouth wide open; eyes half closed, so that the white alone is visible; hoarseness great; breathing and cough still stridulous; respiration over forty, and laboured; the blistering fluid acted well; tongue dry and very brown; sordes of teeth and lips; spots still visible on back, but becoming brownish; urine alkaline, twenty-four ounces, very turbid, the cloud reaching over half way up the tumbler.

Two o'clock, p.m.—His state is very alarming; suffocation seems imminent; voice whispering; stridor of cough as before; sputa very tenacious; respiration very rapid and gasping.

Acetum cantharidis was again applied to the throat, and a large blister between the shoulders.

Nine o'clock, p.m.—Voice so feeble that he is obliged to make several attempts to utter a word; gasps for breath; pulse 120; the blister applied at two o'clock has acted well; he has taken to-day over a pint of beef tea and twelve ounces of wine; the effort of swallowing increases the cough; the laryngeal symptoms being so urgent, I resolved to treat it as if it were an idiopathic inflammation, by mercury.

Ordered to take three grains of hyd. cum creta and half a grain of powdered squill every four hours.

November 2nd.—Got some sleep; no delirium; throws off the bed clothes continually, and keeps his hands out of bed; voice still hoarse; face pale and anxious; respiration between forty and fifty; it is still stridulous; head thrown back so as to extend larynx; mouth widely open; expectoration scanty; pulse 114; he took three powders since last night. Bowels loose, and partly involuntarily affected; tongue moist;

both elbows red and excoriated; tremors of under jaw; spots are still visible on back and legs; urine alkaline and effervescing as before.

Continue the powders and dec. senegæ.

November 3rd.—Night rather restless; the acetum cantharid. was re-applied last evening; he has taken six powders; expectoration is looser; dyspnea less; cough is still hacking, but less harsh; pulse 102; lies on side; some aphthous specks on tongue; throat is very sore from the blistering fluid, as also the right side and the interscapular space; he wonders what has happened his voice, it is a mere whisper, and broken, as he must make two or more attempts to utter a word; spots still duskily visible on back; urine yellow; slightly alkaline; sp. gr. 1018; does not effervesce to-day; no albumen in it.

Continue the powders twice a day; wine twelve ounces; beef tea two pints.

November 4th.—Passed a good night; some excoriation of the elbows and sacrum; pulse 100; cough much relieved; dyspnea lessened; voice still aphonic; he has now taken eight powders; tongue breaking up; face very anemic; great emaciation; some return of appetite; crepitation heard below right scapula (crepitus redux); urine pale yellow; turbid; sp. gr. 1012; alkaline and effervescing. The excoriated surfaces to be brushed with a solution of gutta percha in chloroform; omit powders; continue the dec. senega.

Ten ounces of wine; bread soaked in beef tea.

November 5th.—Slept well; pulse ninety-six; tongue nearly clean; voice still weak; all trace of spots gone; urine is very slightly acid; sp. gr. 1022; no effervescence; nitric acid throws down a pale brown deposit, evidently the urates, as they disappear by heat.

Continue wine and broth; an egg in the morning.

November 6th.—Voice becoming more distinct; pulse ninety-six; urine is the colour of lemon juice; sp. gr. 1010, copious, alkaline and briskly effervescing.

Stop the dec. senega; ordered a grain of quinine in ext. gentian twice a-day; wine lessened to six ounces; two eggs in the day.

November 7th.—Urine to-day slightly alkaline, but not effervescing; sp. gr. 1018; pulse eighty-four; *pergat in omnibus.*

November 8th.—Voice is still whispering, but, by a great effort, he is able to speak loud, but in a cracked tone; pulse ninety; urine alkaline, effervescing, with a copious deposit of the phosphates; the acetic acid produces free effervescence. On testing to-day for the chlorides, by solution of nitrate of silver, after removing the sulphates by the solution of nitrate of baryta and filtration, a considerable curdy precipitate was found. During the height of the fever it showed merely an opaline tint.

November 9th.—Pulse ninety; voice weak; urine neutral; sp. gr. 1018.

November 16th.—He has been up these some days; appetite good; pulse eighty; urine is the colour of dirty whey, and continues both alkaline and effervescing.

November 17th.—Urine to-day slightly alkaline; does not effervesce; voice still weak.

November 20th.—Urine still effervesces.

November 27th.—Discharged from hospital perfectly recovered, his voice quite restored, and the urine having regained its acid and normal properties.

Remarks.—Alkalinity of the Urine.—The preceding case was daily examined in presence of the pupils of the hospital, and excited much interest, several of the students testing the urine for themselves. I have recently examined the state of the urinary secretions in numerous cases of fever, and, though meeting with occasional instances of the presence of carbonate of ammonia, still, in the great majority of cases I found the urine to possess an acid or neutral condition; or, if at times alkaline, seldom attended with effervescence to acids. In the preceding case the alkalinity, with a slight exception, was persistent. It was not examined before the ninth day, so that I can offer no opinion about it before that time. It was carefully examined during seventeen consecutive days, and it was loaded with carbonate of ammonia from the ninth to the twenty-first day of the fever; it then became acid for one day, but resumed its alkaline and effervescing character during the three following days, when it became neutral. From this time out it was variable, but at the period of his departure from the hospital it had regained its acid properties. While alkaline the specific gravity was usually, but not always, below the average, but, on the day when it became acid, it rose above it. On several occasions the urine was examined either at the moment it was voided or very soon after, and in no case was it allowed to remain long in the bladder; but though not so briskly effervescing as after the lapse of a few hours, it always was highly alkaline, sparkling freely, and yielding white vapours to a rod dipped in hydrochloric acid.

The rarity of this condition of the urine in fever has been noticed by several able observers. Out of forty-one cases noted by M. Andral only two had alkaline urine. Willis endeavoured to establish the fact of a regular gradation of the urine in typhus, from acid, during the first week, to a neutral and thence to an alkaline state, and a gradual return from the latter to a neutral, and, finally, an acid condition. Though this theory has received favour with Pelletan, Schönlein, and other authorities, the fact, certainly, is not of general occurrence, neither is it of uniform sequence in cases wherein, as in the present example, the three states occur. It is equally difficult to trace any general law in these cases. Simon asserts that it marks an asthenic state of the system, but it is not found to exist in other cases of an equally adynamic character; he

observes that "in the first stage of the disease a dark, specifically dense, acid urine is often excreted, and that in proportion as the fever assumes a torpid character, and the powers become depressed, the urine becomes clearer, loses its acidity, and, in a very short time, becomes alkaline, containing carbonate of ammonia; sometimes a yellowish, turbid, fetid, and alkaline urine is excreted." He also considers the gravity of the prognosis to be greatly increased in the latter event. Golding Bird has justly remarked that alkalinity of the urine, with phosphatic deposits, is not the rule in typhus, but the exception. He does not offer any explanation of its occurrence. The causes assigned by Scherer, Becquerel, Andral, and other writers, seem scarcely sufficient to account for it; these are—the existence of pus; alteration by the mucus of the bladder; alkaline drinks; and the examination deferred till some hours after being passed; a congested state of the kidney is also assigned; but if these are to be looked on as the sole causes they ought much more frequently and constantly to produce their effects.

Complication with Laryngitis.—In the preceding case the complication was an accidental one, and free from the diphtheritic condition which sometimes precedes or accompanies the laryngitis typhosa. Dr. Murchison, in his able and comprehensive work on the continued fevers of these countries, notices various forms in which it may occur, and dwells on its comparative infrequency as well as its danger from the liability to suffocation from œdema of the glottis. Dr. Magnus Huss, of Stockholm, represents it to occur in Sweden in the proportion of one in about 100 cases of typhus;[a] and I consider his estimate would be even above our average in the South of Ireland. He observes, that it is one of the most dangerous complications that accompany typhus; the patients affected by it generally die; recovery is very rare, especially if complicated with pneumonia or capillary catarrh. Dr. Huss uses the application of nitrate of silver both externally and internally, and, in case of failure, sees no resource except in tracheotomy. In the foregoing case I have reason to believe in the great value of the mercurial treatment as an important adjunct to the topical remedies; and I do not consider that in an intercurrent inflammation, like the above, the co-existence of typhus should contraindicate it.

Large Tuberculous Vomica in the Lung of a Female past Seventy years of Age.—Dr. Popham exhibited the left lung of a woman, named Catherine Brien, over seventy years of age, who died of typhoid fever in the Cork Workhouse, in November, 1863. This patient was not supposed by herself or friends, previously to her fatal illness, to labour under any organic disease, having that variable state of health which is usually found in

[a] Dr. Ernst Aberg's edition, page 163. Stockholm, 1855.

persons of her advanced age. She was seized with rigors on October 24th, and the case terminated fatally on November 11th.

The symptom of which she complained most was excessive prostration of strength; the other symptoms were muscular subsultus, feeble and irregular pulse, cough, with scanty and tenacious expectoration, rapid and laborious breathing, difficulty of swallowing, delirium at night, burning sensation in the stomach, and early constipation, terminating in uncontrollable diarrhea. A loud muco-crepitating râle was noted as existing beñeath the left clavicle, but in so aged a patient it gave rise to some doubt as to the accuracy of the diagnosis.

The *post mortem* examination was performed by Dr. Popham, assisted by Dr. W. S. Gardiner, resident surgeon to the workhouse. On opening the chest the lungs did not collapse. The right lung anteriorly was pale and crepitating; posteriorly and inferiorly it was gorged with frothy and bloody serum. The left lung was forcibly adherent to the walls, both laterally, posteriorly, and at the apex; on endeavouring to separate the latter a cavity was opened containing an ash-grey liquid, anfractuous, and capable of holding an ordinary hen egg. No sign of recent deposit of tubercle was found. The middle portion of the same lung presented the deep red and condensed tissue constantly found in typhus; the inferior portion was gorged, but still crepitated on pressure.

The left side of the heart was enlarged, and its muscular tissue firm; some bony deposit existed at the base of the aortic valves. The large veins were full of semi-coagulated tarry blood.

The abdominal organs, portions of which were exhibited at the same time, showed indications of enteric inflammation. The peritoneum was almost black from venous congestion; no effusion either of serum or lymph existed. The stomach was dilated, its walls very thin and softened, and the mucous membrane slate colour and mammillated. The duodenum and upper part of the ilium were scarcely altered, but the lower portion of the ilium was almost as deeply congested as it would be from the effects of a corrosive poison; there were only a few traces of ulceration. A careful maceration of the cæcum and ilium showed no change in the aggregate glands. The tranverse colon presented a similar state of congestion; the descending colon and rectum were not engaged. The liver was of the nutmeg variety, and weighed 2 lb. 10 oz. The gall-bladder was full of gall stones. The spleen was soft and grumous, so shrunken as not to exceed two inches long by one and a-half wide; its weight was $3\frac{3}{4}$ ounces. Urinary organs normal.

In his observations upon the tuberculous cavity Dr. Popham said that it was not easy to give a positive opinion whether a vomica thus limited had its beginning in early or advanced life. That it was caused by the excitement of the febrile action he wholly set aside upon the high authority of M. Louis, that typhoid fever certainly is able to develop

tubercle in the lungs, but that in no case had he seen an example of it occurring before the twenty-fifth day of that disease, and then only as grey granulations. The weight of probability inclines to the opinion that the vomica existed, but in a dormant condition, at the time when the patient was seized with fever, and was hurried into action by the general state of excitement in the system. It is to be remembered that the chief cause which hastens onward the march of tubercular disease is the deposit of crop after crop of fresh tubercles, which consume what the preceding ones had spared. In the present case no new generation of tubercle had taken place, thus showing that the tubercular deposit was arrested, and limited to the left upper lobe. It had all the characters of a genuine phthisical cavity. Taken in this view the preceding case is one of much interest. The same authority, M. Louis, states:—"That phthisis almost invariably terminates fatally after a space of time varying between a few weeks and several years." It may be a question whether this opinion be not too decidedly expressed. In the present case the phthisical complication seemed to have had little influence of itself in terminating life, and there is reason to believe that but for the fever the patient might have weathered the storms of life sufficiently long for some other disease to have interposed. While, therefore, we consider that the tendency to tubercle decreases as age advances, and that its progress, when existing, becomes tardy, still it is not unlikely that many unsuspected cases occur in advanced life.

The present case also proves that phthisis, though not frequently associated with continued fever, yet does not confer any absolute immunity against it; and we should regard this complication as greatly increasing the danger, though not being necessarily fatal. It is an interesting subject for further statistical inquiry. A case of this kind is quoted by Mr. Ancell, from *The Lancet* of 1842, given by Dr. Wilson:—"Professor Lizars," he observes, "has in his collection a valuable specimen of a lung entirely excavated, nothing being left but an empty sac; the history of the case is quite complete. The man recovered, and was able to support himself by manual labour, and died ultimately of typhus fever, unconnected with pulmonary complaint." No doubt that such cases must be regarded with distrust as being always on the confines of danger.

"Leti discrimine parvo;"

but it is a comfort for the physician to know that though old age as well as youth is subject to tuberculous diseases, yet that sometimes, even with them, old age may be reached in safety.

Case of Pleuritic Effusion with Pericarditis, and Disease of Mitral and Aortic Valves. Reported by Mr. Heas, Clinical Clerk.

George Morris, aged twenty-three was admitted into South Infirmary, November 9th, 1863, under care of Dr. W. C. Townsend.

History of Case.—Some years previous to the present attack he received a violent blow on the chest, since which he has complained of palpitations on making the slightest exertion. About fourteen days ago he complained of pains in the chest and back; great debility and thirst, with pain over the precordial region, and considerable dyspnea.

Present Symptoms.—He is pillowed up in bed; breathlessness; orthopnea; countenance anemic and anxious; tongue loaded; urine scanty, loaded with lithates; complains of pains in the chest and back; debility; cannot lie on right side, and lies with difficulty on left; does not sleep; pulse hard, wiry, irregular, and occasionally intermittent; well marked venous pulsation in the neck. Percussion sounds dull over entire of left side anteriorly and posteriorly; right lung dull posteriorly, slightly dull anteriorly. On auscultation the heart sounds are muffled and blowing; a redux crepitant rhonchus is audible over the posterior portion of right lung.

Treatment.—November 10th.—Ordered a sinapism to the side, and a large blister to be applied after; nitrate of potash, Dover's powder, of each five grains, to be taken every four hours; eight ounces of wine, arrow root.

November 11th.—Continue medicine, twelve ounces of wine; dyspnea increased; countenance more anxious, but the pulse is fuller and stronger.

November 12th.—Continue medicine and wine; turpentine fomentations to be applied frequently. Ordered spirits of nitre one drachm, flax-seed tea two ounces, to be taken every four hours.

November 13th.—Skin is acting excessively; well-marked friction sound is now heard over the heart; the effusion becoming absorbed. Ordered sixteen ounces of wine; omit powders; omit spirits of nitre. Sulphate of quinine twenty-four grains, dilute sulphuric acid one and a-half drachms, syrup one ounce, water to eight ounces. Mix. An ounce to be taken every third hour.

November 15th.—Pericardiac and pleural friction sounds are audible over heart and left lung. Excessive perspirations have been checked by the quinine and sulphuric acid; dyspnea considerably diminished; a jerking pulsation is perceived in the carotid arteries, but no bruit is distinctly audible owing to the friction sounds. Continue fomentations.

November 17th.—Continue medicine; patient improving.

November 21st.—Complains of cough; improving in other respects. Ordered a mixture of chloric ether two drachms, camphorated tincture of opium three drachms, ipecacuanha wine two drachms, syrup one ounce, water six and a-half ounces; half an ounce to be taken when the cough is troublesome.

November 23rd.—Friction sounds have ceased, a systolic bruit is audible at the base of the heart, and is traceable along the aorta. At the

apex of the heart a systolic bruit is also audible; percussion sound dull over base of left lung, clear over superior two-thirds; right lung clear. Ordered eight ounces wine, blue pill one grain and a-half, squill pill one grain and a-half, powdered digitalis one grain. Mix. Make a pill, to be taken every night; nitrate of potash one drachm and a-half, muriated tincture of iron one drachm and a-half, syrup one ounce, water seven ounces. Mix. An ounce to be taken three times a-day; a blister to be applied to the region of the heart; egg; chop.

November 25th.—To take six ounces of wine; patient improving.

November 26th.—Has had a return of the effusion; dyspnea increased; patient cannot lie on right side. Ordered nitrate of potash ten grains, Dover's powder five grains; to be taken every six hours.

November 27th.—To have ten ounces of wine; continue medicine.

November 28th.—Patient has got over the relapse; wine to be diminished to eight ounces.

November 29th.—A blister to be applied over the heart, and five grains of iodide of potassium to be taken three times a-day.

December 1st.—Had another relapse; dyspnea urgent; pulse rapid and weak; countenance anxious; complains of burning sensation when passing water. Ordered—omit iodide of potassium; continue chloric ether, two grains of sulphate of quinine with twenty drops of dilute sulphuric acid three times a-day.

December 3rd.—Burning sensation when passing water still remains; urine scanty, extremely acid, and loaded with urates. Ordered solution of magnesia two ounces, bicarbonate of potash ten grains. Mix. To be taken immediately.

December 4th.—Scalding has disappeared. Ordered turpentine stupes over chest; five grains of Dover's powder every four hours.

December 7th.—Patient has now got over this second relapse. To take one powder every eighth hour.

December 9th.—To take twelve drops of muriated tincture of iron twice a-day, with one ounce of cod-liver oil. Thirty minims of laudanum at night.

December 12th.—Got another relapse of dyspnea. Ordered a gruel enema and sinapisms to be applied frequently.

December 13th.—To continue draught at night.

December 14th.—Died at a quarter before eight o'clock, a.m.

Autopsy.—An opening into the thorax having been made adhesions were perceived between the anterior aspect of the pericardium and the sternum. Adhesions were also visible between the lungs and pericardium. Sac of left pleura full of fluid; a small quantity of fluid was found in the right pleura. The pericardium was much thickened and adherent to the heart, the surface of which presented a honey-combed appearance when the adhesions were ruptured. Some of these adhesions were of recent

others of remote origin. The sac of pericardium contained about two ounces of fluid. The heart and pericardium together weighed two pounds fourteen ounces. On cutting into the heart the mitral valves were found much thickened, and the walls hypertrophied. The aortic valves were thickened at the margins. The right ventricle was hypertrophied and dilated. The valves of right side were healthy.

Memoir on the Pathogeny of Strabismus. By PROFESSOR F. C. DONDERS, of Utrecht. Translated by E. PERCEVAL WRIGHT, M.D., F.R.C.S.I., Surgeon in charge of the Ophthalmic Dispensary of Steevens' Hospital.[a]

[It is not yet quarter of a century since the operation[b] of cutting the recti muscles in cases of strabismus was introduced to the notice of the medical profession. It would be beside our present purpose to allude further to the history of this operation, which is, undoubtedly, one of the most important that was thought of during the present century; besides, as Giraud Teulon[c] well observes, to do so would be but to stir up the still slumbering ashes of a controversy.

After its introduction no operation appears to have been more universally attempted, and thousands were the cases operated upon. The proportion of successful cases, however, would appear to have been but small; and it was soon discovered that it was well nigh impossible to conjecture beforehand whether such and such a case of strabismus was one which an operation would improve; in fact, the requisite knowledge for making such a prognosis was wanted; at last the results became more and more unsatisfactory, and, finally, the operation fell into disrepute.

In Great Britain (until its recent revival) the operation was completely a thing of the past; and in France the study of the laws which regulate strabismus have not only been altogether neglected but have been looked upon as if they had no existence.

It is to the famous schools of Berlin and Utrecht that we are indebted, not so much for the revival of the study of strabismus, and the ways of correcting it, as for placing its laws on so secure and scientific a footing,

[a] This Translation is made from the original Memoir in the *Archiv für Ophthalmologie* Herausgegeben von Arlt, Donders, and A. von Graefe. Band. 9, Abth. 1. Berlin, 1863. With a few additions from the French Translation by Dr. van Biervliet, in the *Annales d'Oculistique.* Tome L, 3e and 4e Livraisons. Octobre, 1863.

[b] Dieffenbach says:—Es sind so eben zwei Jahre verflossen, als mir die Freude zu Theil wurde, die erste Operation an einem schielenden Auge mit Erfolg zu machen. Es war der 26 October, 1839, Nachmittags 3 Uhr. als ich dieselbe, von den Doctoren Böhm, Holthoff, &c., unterstützt, unternahm.

[c] Lecons sur le Strabisme, &c. Paris. 1863.

that one can now, with a degree of certainty never before dreamt of, point out the causes of the various forms of squint, estimate the amount of deviation, and calculate what operation it is necessary to perform in order to overcome it.

Among the memoirs that have been written by the illustrious chief of the Berlin school, none, we think, reflects more credit on its author than his elaborate memoir on strabismus. With an experience and talent second to none, he has, in this paper, detailed the results of his experience in so clear a way as to leave the surgeon for ever indebted to him. As to his experience we may be allowed to mention that the total aggregate of operations for strabismus in Germany are said to be about five thousand annually.

This memoir, which we believe will shortly be translated by Dr. Soelberg Wells, has, however, lately been supplemented by one on *The Pathogeny of Squint*, by Professor Donders, of Utrecht. In our opinion this latter comes just in time to fill up the only gaps in Von Graefe's memior. Believing this we need offer no apology for introducing to the reader the following translation of this important paper, which, we doubt not, will be found to merit all the encomiums that have been passed upon it.]

STRABISMUS may be defined as a deviation of the eyes, in consequence of which the two yellow spots receive, simultaneously, the impression of different objects. The lines of vision do not intersect at the point which one wishes to see—one of the two only, that of the unaffected eye, being directed towards this point. This deviation not only alters the physiognomy, by the want of symmetry of the parts of the face which contribute the most to its expression, but it troubles the vision at least of one of the eyes, and the squinting eye is, in every instance, deprived of the advantages of binocular vision. Strabismus, however, does not, by itself, constitute a definite pathological condition; it is only a symptom which depends upon affections of a very varied nature, and which may accompany other very different pathological signs. Those who would undertake to write a manual of ophthalmology, and to treat, systematically, of all eye affections, would, in many places, have to treat of strabismus as more or less belonging to very different diseases. Strabismus will frequently present itself as a constituent of a composite anomaly, in which it is complicated with the originating cause, and with all the functional disturbances which result therefrom; but it cannot be treated of as a special malady—it is only as a symptom or sign of disease that one could treat of strabismus in general. Although this proposition has been admitted for a long time as true yet it has by no means been acted upon. Open a manual of ophthalmology. A chapter is devoted to the subject, and in it all that relates to the deviations of the eyes is alluded to; elsewhere it is but referred to in passing. Even when it treats of its etiology, we

find the different forms of strabismus brought together, although in their origin they do not resemble each other in the least. In the monographs it is not much better. Is it then strange that the pathogeny of strabismus is still so obscure? It appears to be part of man's nature to attribute to each phenomenon an external cause, and to admit as such the first that presents itself. Pathology itself has not yet entirely liberated itself from this levity and credulity. As far at least as strabismus is concerned, its causation has often been searched for in the most fortuitous circumstances—looking for information to nurses and mothers—while the veritable origin of the disease, which resides in the form of the eye, has been overlooked.

A few years ago we became acquainted with one of the anomalies of refraction—hypermetropia—in which the focal point of the dioptric system, in a state of rest, lies behind the retina. After taking very careful notes of the slighter degrees of this anomaly, which may exist in a latent condition, I quickly came to the conviction that it is on it that asthenopia and convergent strabismus depend—whose origin until then had remained problematical.

Elsewhere[1] I have treated, in detail, on hypermetropia as a cause of asthenopia; I have admitted that the insufficiency of the recti interni muscles, as pointed out by von Graefe,[2] may produce pathological phenomena having a great affinity with those of asthenopia, following hypermetropia; but I have added that cases of this kind are relatively very rare. We find, in studying the causes of diverging strabismus, that they occur very frequently with a certain degree of myopia; so I have also mentioned that the greater the degree of the accommodation $\frac{1}{A}$ so much the greater can the hypermetropia be without causing asthenopia; and, therefore, the later the asthenopia is in developing itself the less is the hypermetropia.

I have added that the age at which asthenopia commences, corresponds very nearly to the denominator of the fraction which expresses the degree of hypermetropia. Lastly, I have remarked, that the feebleness of the accommodation, whether owing to general or local causes, favours the development of asthenopia. I have since published some observations[3] on diminution of accommodation, of a diphtheritic origin, which had produced symptoms, which one could never determine, at first sight, from those of asthenopia from hypermetropia.

I have only treated[4] incidentally of hypermetropia, as a cause of convergent strabismus; nevertheless, it is now some time since I published the results of my observations relative to this subject. Indeed, I never lost sight of the subject; but I desired to examine, thoroughly, and investigate, for every class of cases, what those anomalies of vision are with which the different forms of strabismus may be connected; it appeared to me that researches of this nature would tend, most surely, to elucidate the pathogeny of strabismus. These anomalies are treated of,

from a general point of view, in the following pages, wherein I give an abstract of particular cases.

The inquiry is one best determined by statistics, and I have already investigated in a very great number of cases affected with strabismus—and for both eyes—all that appeared to me to be either a cause, or a consequence of the deviation of the visual line, or to be of a nature to throw light, some day, on the development of these affections. I have taken notes of the sex, age, and habitual occupations in all these cases. The state of refraction has been critically ascertained for each individual eye—the extent of accommodation, the degree of acuteness of vision, the extent of movements; these latter in connexion with the variable, or not variable, angle of deviation; and to these I have added others concerning the time and manner of the origin of the deviations; heriditary influence, and the different complications and functional disturbances (diminution of the extent of the usual field, diplopia, &c.) which accompany it. I have been very warmly assisted in these researches by many of my pupils, among others by Dr. Haffmans; I have thus been able to register over 280 cases. It is true that in many of these it was not possible to determine all the points above alluded to, and that in others all the precision desirable was not to be obtained. This will not surprise those who know, by experience, how arduous and difficult a thing it is to examine the eyes, in connexion with their functions, in children or in adults, with but little mental cultivation. Nevertheless, this need not hinder us from determining, in a very satisfactory manner, from the collected data, a large number of questions of the greatest importance on the treatment of strabismus. At present I intend to occupy myself more especially on the pathogeny of this affection, and to examine, in particular, the influence which the various states of refraction of the eyes have upon it.

According to the direction of the deviation we may distinguish two principal forms of strabismus—converging strabismus and diverging strabismus. The conclusions to which our researches have conducted us may be summed up in the two following propositions:—

1. CONVERGING STRABISMUS IS MOST FREQUENTLY A RESULT OF HYPERMETROPIA.

2. DIVERGING STRABISMUS IS MOST FREQUENTLY A CONSEQUENCE OF MYOPIA.

We shall now proceed to examine, in detail, these two species of strabismus; saying a few words, in the first place, about apparent strabismus.

ON APPARENT STRABISMUS.

When two eyes, which are free from strabismus, steadily regard an object placed at an infinite distance, the lines of vision—those which go

from the yellow spot through the optic centre—are parallel. If they are *not* so, there must exist a true strabismns. When they are so, there may, nevertheless, exist an apparent strabismus.

In other words, we judge of the existence of strabismus by the direction of the axes of the cornea, in viewing objects at different distances; for if the axis of the cornea is not in its normal relation with the line of vision there appears to be a strabismus, although the lines of vision may not have deviated in the slightest. This apparent strabismus plays an important part in the development of true strabismus; hence we proceed to say a few words in reference to it:—

In normal (emmetropic) eyes, when, looking at distant objects, while the visional lines are parallel, the axes of the cornea appear to have an identical direction. that is to say, they appear to be parallel. This is, however, a mistake; the lines of visison cut the cornea on the inner side of the optic axes, *i. e.*, on the nasal side. Therefore, when the lines of vision are parallel the axis of the cornea diverge. Further, they are not both situated on the same horizontal plan; but the difference, in this respect, is so slight, that in these researches it may be overlooked, as of no importance.

If we admit the dioptric system of the eye as having a centre, which, as a general rule, it pretty nearly has, then the line of vision and the axis of the cornea intersect each other at the common optic centre We will designate by α the angle at which they intersect. It lies at the inner side of the axis of vision. It was Senff who discovered the small divergence which exists between the axis of the cornea and the line of vision. Helmholtz found in three eyes the angle α to be equal 4° 19′; 6° 43′; and 7° 35′. Knapp obtained almost the same results. I also confirmed these statements, employing two different methods to do so; at first I tried Knapp's method,[5] which, I believe, was borrowed from Helmholtz. It consists in determining the radius of the curve, both of the line of vision and of a fixed number of degrees at its inner and outer sides. Another method has been employed by Dr. Doyer and myself. It presupposes that which is proved by the results obtained by Helmholtz, Knapp, and myself, viz., that the axis of the cornea cuts exactly the centre of that membrane. The angle α is found by determining the angle at which the line of vision and the axis of the ophthalmometer must be inclined, in order that the reflection of a flame, placed in this axis, may fall exactly on the centre of the cornea; the reflected image is so placed when its double images touch simultaneously the edge of each of the double images of the cornea which is opposite to it. In more than fifty eyes, almost emmetropic, I have found, in this way, that the line of vision always cuts the cornea on the nasal side of its axis. More precise observations made on fifteen emmetropic eyes have given to α a maximum value 7°, and a minimum of 3° 5′, the mean being 5° 028′.

From which it follows that in vision at infinite distance, the axes of the cornea in the emmetropic eyes diverge $2\times5=10°$.

This condition, however, does not give one the impression of a divergence in the axes, but rather of a parallelism. Apparent diverging strabismus is only detected when the separation is greater; and when there is an approach to parallelism, we fancy that a converging strabismus exists. The first of these is peculiar to hypermetropia, the second to myopia.

In my researches made according to the first method, I was surprised to see that in certain very pronounced cases of myopia, the axis of the cornea coincided very nearly with the line of vision, the value of angle α being very small. In examining seventeen eyes by the second method, I found for α as a maximum $5\frac{1}{4}°$, as a minimum, $1\frac{1}{2}°$, the mean a trifle below 2°. In not less than five of these eyes, the value of α being negative, the angle lay on the outer side of the visual axis. In general the greater the myopia the smaller the angle. For hypermetropic eyes we have remarked precisely the contrary. In sixteen hypermetropic eyes the value of α was found, the minimum to be 6°, the maximum 9°, and the mean 7° 3′. A point worthy of remark, and which proves how constant these relations are, is that the maximum value of α in myopia is surpassed by the minimum value of that angle in hypermetropia.

The determination of the radius of the curvature of the cornea, both in the line of vision and for a point distant for 10° outside it, gives for myopia a smaller value in the line of vision; for hypermetropia one finds the smaller one outside the line of vision.

Von Graefe[6] has already perceived that it is not rare to find myopia accompanying an apparent converging strabismus. Nevertheless the difference may be very considerable, as a result of what we have said above; a possible divergence of 10°, in an emmetropic eye, may be replaced by a convergence of 3°, or even of 9°, as I have recently observed. For hypermetropic eyes the deviation is sufficiently pronounced for to be remarked at the first glance of the eye; a divergence of 16° to 18° will never be confounded with parallelism. These differences in the direction of the axes of the cornea are very important in reference to the physiognomy of myopia and hypermetropia.

So far as myopia is concerned the explanation presents no difficulty; the direction of the line of vision is determined by the two points through which it passes—the yellow spot and common optic centre *k*. According as the myopia increases the optic centre is removed from the retina; and even though the distance between the yellow spot and the prolonged axis of the cornea remain the same, still the angle between the line of vision and the axis of the cornea will diminish on account of the removal of the focal centre; however, this is not of much consideration here.

That there is a more important factor in play follows from this—

that the value of the angle not only diminishes but may even become negative. This factor is the unequal distension of the external half of the posterior portion of the globe, in consequence of the development of a posterior staphyloma. It thereby results that the optic nerve is drawn away much more from the axis of the cornea, towards the inner side—it is the same for the yellow spot; although this latter is removed further from the optic nerve; and the atrophy of the choroid commonly commences at the margin of the optic nerve, which is turned towards the yellow spot. The unequal distension of the external segment carries the yellow spot more and more towards the point which corresponds to the axis of the cornea; which it can even pass, the consequence of which is a negative value to α

The comparative greater value of α in the hypermetropic eye depends, in the first instance, on the smaller distance between the optic centre of the eye and the retina. But it is also necessary to look for the cause in a congenital displacement, outwards, of the yellow spot; and to the study of development alone must we look for a solution of this point. Everything seems to indicate that the hypermetropic eye must be considered as an incompletely developed organ; and this not only from its structure, but also from the very imperfect manner in which it executes its functions.

I believe that the so-called strabismus incongruus of Johannes Müller,[7] of which the very existence has been a little too strongly denied, is nothing else than the apparent strabismus of which I have just given the description. It is true that the relations which exist between this deviation, and the anomalies of refraction, were not known to him; and that he has not expressly connected it with the position of the yellow spot; nevertheless, what other affection could he have had in view in expressing himself as follows:—"Besides, this kind of strabismus *is not rare;* but in general *the deviation is but little marked;* often even so much so as to pass unperceived; when both eyes are equally capable of a steady gaze, and the sight of both perfect." He adds, that the muscles of the eyes were perfectly sound. Then the definition which Müller gives applies very well to our apparent strabismus. "This strabismus," he says, "is congenital (which is certainly the case so far as the apparent diverging strabismus of hypermetropia is concerned) and incurable. It depends on a difference in the position of the same points of the retina, in the two eyes; so that these, subjectively are quite one, but that which is identical in both eyes, belongs to different meridians; as, for example, the central point of one of the retinas has not its exact analogue in the centre of the other eye, but at a certain distance from its centre." He is less exact in what concerns myopia, when he adds—"The same difference exists in all the identical parts of the two eyes." He illustrates his views by a a figure, from which one might conclude that, in his opinion, the line of

vision (his optic axis) and the axis of the cornea (his axis of the eye) were non-coincident in one eye only.

Von Graefe has discribed[8] a very marked case of this nature under the name of "an apparent incongruence of the retina, by the anomalous entrance of the optic nerve;" the yellow spot at the same time, with the optic nerve, was thrown very much on the inner side in one of the eyes. He compares this case with one of true incongruence of the retina, in which the yellow spot was found on the nasal side of the optic nerve in one of the eyes. I cannot conceal the fact that this last case is to me a very problematical one.

On account of the imperfect sensibility of the portions of the retina, employed in fixation, another explanation might very easily be given, of which Von Graefe has himself thought; therefore I cannot admit that any other forms of incongruence of the retina are demonstrated besides those which I have written of under the name of apparent strabismus. I willingly apply to these the express words of Von Graefe when he says —"I do not regard this case as one of incongruence of retinas, but as an *unsymmetrical development* of the two halves of the optic bulb."

The hypothesis of Hire,[9] already controverted by Jurin and Buffon, but revised, in our days, by Pickford,[10] viz., that convergent strabismus commonly depends on the incongruence of the retinas, does not, after the researches of Von Graefe,[11] deserve to be any further discussed.

(*To be concluded in next Number.*)

CLINICAL RECORDS.

Case of Epithelial Cancer. By Christopher Fleming, M.D., Surgeon, Richmond Hospital, Visiting Surgeon, Dr. Steevens' Hospital, &c., &c.

P. Q., a herd, aged fifty years, and in rude bodily health, applied at the hospital with a malignant-looking tumour about the centre of the right popliteal space. According to his statement this tumour commenced four and a half or five months previously in the shape of a rounded lump, the integuments covering which moved freely over it, and presented no unnatural appearance. It enlarged quickly, and became fixed in its situation, when, whilst at work, the skin suddenly burst over it, and a warty growth sprung up, which has latterly rapidly advanced, and has interfered so much with his work and the movements of the limb as to oblige him to apply at hospital. He was admitted in October, 1862. The tumour was now about the size and shape of an ordinary tomato fruit, was irregularly ulcerated, and deeply sulcated; was coated over

with a grumous rusty-looking material, and discharged, freely, a thinnish and most offensive fluid. Its surface was extensive, and its surrounding edge overlapped considerably a somewhat pedunculated root, about an inch and a half, or so, in diameter. Repeated hemorrhages also took place from it, much influenced by any rough usage, or any altered position of the limb. The surrounding integuments were inflamed, and in many places excoriated. The glands in the popliteal region could not be felt enlarged, but those in the inguinal, particularly the lower range, were much so. It could not be said much pain was complained of except in the movements of the limb, especially when it was much extended, and as to his general health it appeared to be excellent.

After some days' rest, and the complete subsidence of any attendant surrounding inflammation, it was decided to excise the morbid parts and to apply the potassa fusa to the exposed surface. Both these objects were attained under the influence of chloroform, and it was quite obvious that the deep fascia was identified with the diseased mass. The ordinary subsequent treatment was adopted, and, at the end of a month, the man left the hospital at his own request, cicatrization having been nearly completed, and the full functions of the limb being restored.

After another month he again applied at hospital, when he stated that the cicatrix never completely healed, that he resumed his ordinary work, and that the tumour again grew up. On examination it was found that it had resumed all its former characters; that the glands in the groin had become more irritable, and apparently more increased in number and in size; and that hemorrhages constantly recurred from the tumour. Fresh excision was had recourse to, the portion of fascia involved in the bed of the tumour was removed, and the whole exposed surface was afterwards freely cauterized with the actual cautery, the application of which was subsequently repeated, as appearances might have indicated its necessity. A very healthy surface was afterwards the result of this treatment, and cicatrization appeared to be most satisfactory, when again sprung up the same malignant growth. I now had recourse to "Burnett's Disinfecting Fluid," a remedy which I had found, on not a few occasions, very valuable in the treatment of cutaneous cancerous, or cancroid growths, much similar in their nature. It often arrested their progress very efficiently; and the resulting granulating surface cicatrized smoothly, and permanently so. A similar result took place in the above case; and, more than twelve months having since elapsed, it is reasonable to hope that the cure will be permanent.

Cancer, in its epithelial form, presents itself to the surgeon in a great number of instances, the vast majority of which carries with them features too characteristic to escape detection. In the above case, if its history can be depended upon, it would appear that the material of the disease was primarily developed in the sub cutaneous tissue, and that

hence it might be considered as belonging to the "deep-seated" variety of Mr. Paget. There are forms of the mucous and the muco-cutaneous class of this disease which are very amenable to caustic treatment without excision. In certain of them, in the lips, on the face, and at the verge of the anus, much success has followed such applications, and the least disappointing I have found to be the fluid I allude to. This, it is almost unnecessary to add, is a strong solution of the chloride of zinc, in the proportion of twenty-five grains to every fluid drachm; some chloride of iron being also present (Pareira). The application is painful, but the pain is not of long duration, and exposure to cold air soothes it. The "stick" of chloride of zinc is a very good mode for the use of this excellent caustic; but latterly I prefer "Burnett's Fluid," as being capable of more accurate and more intimate application.

The implication of the lymphatic glands in epithelial cancer, when seated in the extremities, is an important consideration, but less so in this form of cancer than in the more inveterate. I am inclined to view more favourably the question of operative interference when *both* chains of glands are involved, and when, as is often the case in the working class of people, the glands of *each* extremity are involved. Such a condition may be independent of the disease.

Cases in Surgery. By Glascott R. Symes, one of the Surgeons of Dr. Steevens' Hospital.—(*Continued from* Vol. XXXVI., p. 244.)

No. IV.—*Strangulated Femoral Hernia; Operation; Fecal Fistula; Recovery.*—M. M'G., aged 60, a native of Skerries, admitted into Dr. Steevens' Hospital on the 13th November, 1863. On admission she presented all the usual symptoms of strangulated femoral hernia of the right side; the tumour was the size of a walnut; the only symptom calling for special remark, was a peculiar erysipelatous and œdematous condition of the integuments over and around the swelling. She had had the hernia for five years previously, but it never gave her any annoyance; she never wore a truss; it could readily be reduced when she was in the horizontal position.

On the 9th inst. she was engaged in hammering a nail into a small door; in order to clinch the nail, she placed a stone against the door, and supported it by her abdomen. During the muscular efforts required in the execution of this manœuvre, she felt considerable pain in the rupture; since that the pain never left her; vomiting ensued the next day, but it was not until the 12th, the day before admission, that she applied to Dr. Symes, of Skerries, for relief. She was a woman who had undergone a great deal of hardship during her life, having had some very unfavourable labours, during one of which the perineum was ruptured into the anus; she had also a cough for a considerable time—she was, altogether, very much reduced at the time of her admission.

Our efforts to reduce the hernia having proved unavailing, the operation was proceeded with. Owing to the œdematous condition of the integument, the usual method of laying bare the hernial sac, by transfixion, was inadmissible. The sac was large and thick, containing about five drachms of serous fluid. The knuckle of intestine was about the size of a hazel nut, of a dirty yellow colour, and rather flaccid; but it was not of such an appearance as to induce the belief that it was gangrenous. I divided the stricture in the usual way—upwards and inwards—when the gut was readily returned.

After the operation the serious symptoms did not abate, as is usual in most cases; there was no motion from the bowels until the night of the 16th, when there came away, in two stools, a great deal of feculent matter. On examining the wound, on the morning of the 17th, it was at once evident that a fecal fistula was established; the dressings were saturated with a quantity of fluid, of a peculiarly fetid acrid smell. On the 26th a large slough separated, and left an extensive irregular opening; there was a daily discharge of solid feculent matter, per rectum, and a continuous flow of feculent fluid through the wound.

Though she escaped all the immediate dangers of the operation, yet she was very near being carried off from excessive debility—the result of inanition. The nourishment of which she partook, almost greedily, passed out of her system, by the wound in the groin, before a sufficient quantity had been assimilated. This constituted a diarrhea of the very worst kind. On the 17th day after the operation, I adopted the expedient of placing a pad over the wound, so as to keep their contents in the intestines for a longer time. In favour of the success of this plan was the fact, that the remainder of the tube was pervious, the perforation existing only on the line of greater curvature. Against the success of the plan was the possibility of the union between the edges of the wound and the intestine not being complete, then by preventing the discharge of fluids, extravasation might take place into the general peritoneal cavity. The pad was first applied for a few hours at a time; but after forty-eight hours was applied continuously. The plan worked admirably, so much so that the patient became convalescent rapidly, the wound decreased in size to such a degree, that the feculent discharge entirely ceased; at the time of her dismissal from hospital there was nothing but a pin-hole remaining, through which a small quantity of pus discharged itself daily. She left hospital on the 20th December, to enjoy Christmas with her friends, in the country. Before this I doubt not but that the wound is closed entirely.

This case offers for consideration the important question of prognosis in cases of fecal fistula; this and another case, which I published last year, would go to prove that "artificial anus," as it is improperly called, is by no means the hopeless deformity, or accident, which some consider

it; one thing seems essential to the cure, whether it be spontaneous, as in both these cases, or by subsequent operation, namely:—the angle formed by the knuckle of intestine must be an obtuse angle; if it be less, the feces will all pass out of the wound instead of passing per rectum. To do away with the acute angle is the object of Dupuytren's operation.

No. V.—*Strangulated Inguinal Hernia in a Boy; containing Cecum and Vermiform Appendix, with a distinct Sac; Operation; Recovery.*

P. C., aged 14, a native of Tallaght, Co. Dublin, was admitted into Steevens' Hospital, under my care, on the 17th November, 1863. He was labouring under all the symptoms of strangulated inguinal hernia of the right side, viz., constipation, vomiting, hiccough, pulse rapid and hard, tongue white and dry, pain, &c. The tumour was situated in the inguinal canal, and of immense size, considering either its situation or the age of the patient; it was fully the size of an orange. The seat of stricture was the internal abdominal ring. A gurgling sound was produced on manipulating the tumour, showing it was distended by a considerable amount of flatus, it was very tight and elastic; neither of the testicles could be felt they were so much retracted.

The history of the case was, that the rupture had existed since the lad was nine months old; he had never worn a truss; it was reducible; as far as could be ascertained it had never come as far as the external ring. It became strangulated on the 14th, during violent exertion, when Dr. Burkett recommended his removal to hospital. Long and persevering efforts were made for two hours, both by myself, Mr. Hamilton, Mr. Colles, and Mr. Fleming, in order to reduce the hernia, but without the slightest effect; they were again renewed when he was under chloroform, but without any result. I mention these facts to show that every effort was made, as the healthy condition of the intestine proved that the constriction was very slight, and a person seeing it then, for the first time, might say that it could have been reduced without having had recourse to the operation. The incision was made obliquely downwards over the tumour; on arriving at the hernia it was found to be covered with a distinct sac; although in many books a cecal hernia is said to have no sac. There was no fluid present. The hernia consisted of the whole of the cecum, and part of the ascending colon, along with the vermiform appendix; these parts were distended to nearly double their natural size. As the tip of the finger could be introduced into the ring, an attempt was made to reduce the hernia, but unsuccessfully. The constriction was then divided directly upwards; instead of this aiding our efforts, it allowed more of the ascending colon to be forced down. The gut was unusually healthy. Owing to the peculiar nature and outline of the large intestine, it being dilated into a number of pouches, a very considerable amount of time and manœuvring was required for the

reduction of the hernia; during the time that it was being manipulated it changed its colour from that of a bright purple to dusky scarlet. Although it was not seen, there is no doubt but that the termination of the ileum was included in the hernia. This patient never had a bad symptom after the operation; he was discharged on the 1st December.

Cases of Cerebral Disease. By Thomas Hayden, F.R.C.S.I., L.K. and Q.C.P., Physician to the Mater Misericordiæ Hospital, &c.

Case I.—*Hemiplegia without Facial Paralysis.*—John C., aged about sixty-five, was admitted into the Mater Misericordiæ Hospital on the 24th December. From the friends who accompanied him the following history was obtained:—He had been a person of intemperate habits, and had squandered in dissipation a large property, but having received a superior education, he supported himself latterly by teaching languages. Whilst instructing his class on the evening of the 23rd December, he was noticed to cease speaking abruptly, and immediately afterwards he dropped off his chair. When raised it was found that he had lost the use of his right side, as also the power of articulating. On the following morning he was brought to hospital.

There was complete paralysis of motion of the right arm and leg, with spasmodic rigidity of the biceps flexor cubiti, and hamstring muscles; no impairment of cutaneous sensibility, reflex irritability normal; temperature was not lowered. There was spasmodic contraction of the muscles of the left side of the face, causing partial closure of the eye and retraction of the angle of the mouth on that side; the muscles of the right side of the face were unaffected; there was no strabismus, and the pupils were of normal and equal size, and sensible to light. The tongue, when protruded, passed to the right side, and the power of articulation was entirely abolished. There was complete paralysis of the sphincters of bladder and rectum. The left arm and leg were unaffected, and the power of deglutition as in health. The pulse was firm and regular, and varied from eighty-four to ninety-eight. The cardiac impulse was feeble, and the sounds muffled, and scarcely distinguishable, but unaccompanied by murmur. I was unable to discover in the superficial arteries any evidence of atheromatous degeneration. The patient was perfectly intelligent, but unable to communicate his ideas. A few days after his admission it was observed that a large bulla had formed upon the sole of the right foot.

The treatment consisted in a blister to the scalp, dressed with mercurial ointment, etherial and alcoholic stimulants, and nourishing diet. It was found all but impossible to keep the bed dry, as the urine escaped from the bladder as quickly as it was secreted, and the refractory conduct of the patient rendered it most difficult to keep a urinal adjusted to him;

as a consequence bed sores were formed, but not of a formidable character.

For the last few days the patient's condition has undergone a favourable change, and I have hope of his recovery, though not of the complete restoration of the use of the paralysed members.

Remarks.—That the combination of symptoms above enumerated was the result of organic lesion of the brain, few will doubt; a greater latitude, however, may be claimed in regard to the exact site of that lesion, in the present imperfect state of our knowledge of the extent of the central ramifications of the cerebral nerves.

Judging from the unimpaired state of intelligence upon the one hand, and the absence of stertor, stridor, or any respiratory impediment whatever, upon the other, I should be disposed to look for the lesion neither in the cerebrum proper, nor in the medulla oblongata. I should expect to find it rather in the left side of the pons Varolii, and *below* the decussation of the portio dura nerves. The absence of strabismus renders it unlikely that the crura cerebri, or any higher point of the motor tract is involved.

Partial Paralysis, with Hyperesthesia of One Side of Body, Morbid Sensibility and Vascularity of the Retinæ.

Case II.—John S., aged fifty-five years, unmarried, a general grocer by trade, was admitted into the Mater Misericordiæ Hospital on the 13th November, 1863. Owing to the defective state of his memory it was impossible to obtain much information from himself, but the following history of his case was gleaned from his friends. He had been in affluent circumstances, but owing to reverses in trade, which he had carried on in conjunction with his brother, had been reduced to penury. Whilst endeavouring to obtain indulgence from a creditor, about three years ago, he was reproached by the latter with dishonesty in presence of several persons, and, as it would appear, in consequence of the shock thereby produced, he became paralyzed on the instant, but did not fall or lose consciousness. Since that time he has been occasionally under medical treatment, and has had an issue made in the back of his neck, which is still discharging. There is partial paralysis of the left upper and lower extremity, consisting rather in a want of the power of *co-ordination* than in absolute debility of the muscles; thus, when requested to move the fingers or hand he can do so, but not so as to perform a required function—the muscles appearing to obey the motive impulse of the will, but not to acknowledge its control. There was persistent spasmodic rigidity of the left side, with hyperesthesia, and a sensation of pricking on that side extending to and engaging the left side of the tongue; there is no alteration of temperature. The left pupil was contracted, and the retina morbidly sensible to light, necessitating the use of a shade; he

perceived in the left eye, and, partially, also in the right, nebluæ floating across the axis of vision. The left angle of the mouth was slightly retracted, owing to spasm of the muscles of that side of the face. The right side was wholly unaffected. Pulse feeble, and over 100 in the minute; heart's action regular, and sounds normal. The memory is defective, and the gait tottering. Arrest of the discharge from the issue in the back of the neck brought on the most distressing sensations, such as that of pressure on the top of the head, dimness of sight, giddiness, and impending danger. The treatment consisted in aperients, cinchona with iodide of potassium, nutritious diet, and a moderate allowance of wine. The issue was kept open.

Remarks.—Ophthalmoscopic examination of the eyes exhibited dark floating bodies in the vitreous humour, which appeared to gravitate with the motions of the head; these appearances were most marked upon the left side. There was abnormal vascularity of the retinæ. This case was probably one of atrophic softening, with apoplectic extravasation on the right side of the brain—most likely in the vicinity of the optic thalamus.

Case of Retroversion of the Pregnant Uterus, and Prolonged Retention in Utero of a Blighted Ovum. By Lombe Atthill, M.B., F.K. & Q.C.P., &c., lately Assistant Physician, Rotundo Hospital.

On the 3rd July I was requested to see a lady who was suffering from retention of urine. On visiting her I learned that she was pregnant, having menstruated for the last time on the 6th of the preceding March, that immediately after that date she had begun to suffer from nausea and vomiting, which were always, in her case, very early symptoms of conception. I calculated, therefore, that she was in the sixteenth week of her pregnancy.

It appeared that on the previous day (2nd July), she had over-exerted herself packing up and arranging her house preparatory to leaving town for the summer; that on retiring to bed at night she discovered she was unable to pass water, but as she was free from pain, thought this of no consequence; before morning, however, she experienced great distress, and was obliged to seek aid. My first step was, of course, to relieve her sufferings by emptying the bladder; this was accomplished, without difficulty, by the use of a male gum elastic catheter (which is far the best instrument in such cases). I then proceeded to examine the state of the uterus, and found, as I had anticipated, that it was completely retroverted, the fundus lying in the hollow of the sacrum, and the os tilted up so high anteriorly as to be out of reach.

I made an immediate effort to restore the uterus to its normal position by pressing the fundus upwards with the index and middle fingers, but was obliged to desist as the attempt caused too much pain, and determined, therefore, to be content for the present with emptying the bladder

twice a day, and on each occasion of doing so to make such an amount of pressure with my fingers on the fundus as the patient could bear; and on the third day after the occurrence of the accident, that is, the second of my attendance, I had the gratification of finding the fundus slip up into its natural position, after the steady application of gentle pressure for a few minutes—little or no pain being experienced. It is worth remarking that the nausea from which this lady suffered ceased on the occurrence of the retroversion, and returned, though in less degree, when the displacement was rectified.

After this, for a time, all went on well, and I had begun to hope that gestation would proceed naturally, when, after the lapse of a month, considering herself quite safe, she took a long walk. The next day slight hemorrhage set in, accompanied by sharp pains; the latter symptom yielded to the exhibition of Indian hemp; but though various astringents were tried the hemorrhage continued to appear at intervals for fully a fortnight; the nausea, which had returned when the retroversion was rectified, ceased altogether on the occurrence of the hemorrhage. The last attack of hemorrhage occurred on the 28th of August, and from that date till the 10th November the lady enjoyed most excellent health; but during the night of that day most alarming hemorrhage suddenly set in without any premonitory symptom; she had also a few severe pains; and on my arrival, which was within half an hour of the occurrence of the first symptom, I found that she had aborted.

The fetus was evidently blighted for some time; in my opinion its development had been arrested during the fourth month of gestation; and I believe it has been retained in utero in its present state for a period of not less than twelve weeks.

I date its death from the time that hemorrhage first set in, that is from the end of the second week in August; not only because that symptom showed that the fetus was, at least partially, detached from the uterus, but also because the nausea which had been such a distressing symptom, then disappeared. During the whole of this long period the blighted fetus not only gave rise to no unpleasant symptom, but the patient considered her health to be unusually good, though she more than once remarked that she did not increase in size.

This case appears to me to be interesting, not only from the fact of the fetus being retained in utero for a lengthened period after its death had taken place, but from the remarkable cessation of the distressing nausea, first on the uterus being retroverted, and secondly on the occurrence of the hemorrhage, which, in my opinion, marked the death of the child.

Obituary Notices.

JOSIAH SMYLY, F.R.C.S,

Vice-President of the Royal College of Surgeons.

JONATHAN OSBORNE, M.D., M.R.I.A.,

King's Professor of Materia Medica in the School of Physic in Ireland.

THE mortality among the medical men of this city, within the last seven years, has, we believe, been unprecedented; and what renders this the more remarkable is, that it has occurred independently of any epidemic invasion Let us just enumerate the losses which the profession and the public have sustained during this comparatively brief period:—Crampton, Bellingham, Harrison, Montgomery, Marsh, Porter, Harkan, Rynd, Pitcairn, Cusack, Brereton, Montgomery, Peile, O'Beirne, White, Ledwich, Tagart, W. Kennedy, Lees, Martley, A. M'Donnell, Williams, Moss, Woodroofe, Baggot, Whitestone, Kelly, Nixon, Beauchamp, Scouler, Kinahan, Power, And now the ruthless hand of death, not satisfied with the devastation already made in our ranks, has again been amongst us, and cut off one, scarcely past the prime of life, who combined the attributes of an accomplished surgeon with all the qualities of a Christian gentleman.

It is with deep regret we have to announce the death of JOSIAH SMYLY, Esq., Fellow and Vice-President of the Royal College of Surgeons. This event took place on the 19th ultimo, and resulted from an acute attack of pneumonia, which had seized him only a few days previously. Mr. Smyly was born in the year 1804, and, having graduated in Arts in Trinity College, and served an apprenticeship to his uncle, the late Sir Philip Crampton, he obtained, in 1826, the licence of the Royal College of Surgeons. Upon the death of Mr. Thomas Hewson, in 1831, he was elected one of the surgical staff of the Meath Hospital, of which hospital he was the senior surgeon at the time of his decease, having outlived all his original colleagues, with the exception of Dr. Stokes.[a]

[a] It is not a little singular that of twelve surgeons connected with this hospital, since the year 1846, seven have been removed by death.

For some years back Mr. Smyly has enjoyed a large and increasing share of private practice. This was to be expected from his great hospital experience and thorough knowledge of his profession. But, in addition to these essential qualifications for success as a practitioner, his gentleness of manner and considerate kindness to the sick, no matter what their rank in life, gained for him the affectionate regard of his patients; whilst his large benevolence, his unaffected simplicity of life, and his sterling principles, made him universally respected and esteemed. Being a man of rather quiet unobtrusive habits, he did not seek a prominent place in any of the medical or surgical societies to which he belonged; *esse quam videri* seeming to have been with him a ruling maxim. His contributions to medical literature were not a few. They were on "Lithotrity," "Compound Fractures of the Patella," "Thoracentesis in Empyema," "Operations for Strangulated Hernia," and "Stricture of the Urethra," and all appeared in the pages of this Journal (Vols. III., IV., XXVII., XXVIII., XXXIV., and XXXV.). From the character of these papers it is much to be regretted that their author did not give to the profession more of the results of his long experience and practical wisdom.

Though deeply imbued with the spirit of true religion, he never obtruded his opinions on others, but preferred to let the practical influence of what he felt be evidenced in the acts and conduct of his daily life. Of his social and domestic qualities it would be out of place here to speak; but this much we may say, that those who knew him, in the closer relations of life, have cause to sorrow for him with no common grief.

The remains of Mr. Smyly had not been consigned to their last resting place before death removed from the ranks of the medical profession in Dublin another distinguished member, Dr. JONATHAN OSBORNE, who died on the 22nd ultimo, from a complication of heart disease and congestion of the lungs. Dr. Osborne filled the Professor's Chair of Materia Medica in the School of Physic, in Ireland, for many years, with great honour. He was thoroughly acquainted with his subject, and was an admirable teacher. Dr. Osborne was no ordinary man; he had a most original mind, with a most ardent thirst for knowledge, which he drew in from the most varied sources. He was full of information, both professional and general; and no one could communicate it more happily. He was, in fact, a most accomplished scholar. He was a man of most

simple and pure tastes, which he probably derived from the Moravians, amongst whom he received his early education. Here, too, we may believe, he learned that respect and veneration for religion which he ever exhibited.

> 'Quo semel imbuta est recens servabit odorem
> Testa diu"

Dr. Osborne never sought general practice; he felt that it would have been too dearly purchased at the expense of its attendant anxieties. He did practise, and enjoyed the confidence of many who knew how to value him as a skilful, scientific physician. His contributions to medical science, of the principal of which we append a list,[a] bespeak the originality of his mind and accuracy of his observation. His treatise on dropsies is full of information, both as to the nature and treatment of this disease, especially of renal dropsy; and we believe he was the first to describe the treatment which is now generally allowed to be that suited to this form of the disease—in fact, subsequent experience has added nothing to it.

From amongst his many original suggestions for the advancement of medical science we would especially notice his proposal to use the rate of cooling of a heated thermometer as the best mode of estimating the cooling effects of a given climate upon invalids. Meteorologists observe each element of the atmospheric influence separately, and

[a] Dr. Osborne's treatise On Dropsies Connected with Suppressed Perspiration and Coagulable Urine was first published in 1835, when he was President of the K. and Q. College of Physicians; a second edition was called for in 1837. His other writings have all, we believe, appeared in our own pages. The following appeared in our First Series:—Observations on Local Blood-letting, Vol. iii., 1833. On Loss of Speech, Vol. iv., 1834. On a Hemorrhagic Diathesis Peculiar to a Family, Vol. vii., 1835. Propositions Relating to Diseases of the Stomach, Vol. vii., 1835. On the Effects of Cold and Climate, Vol. viii., 1836 (first account of the sensation thermometer). On the Effects of Cold on the Human Body, Vol. ix., 1836. On the Nature of Neuralgia, Vol. xii., 1838. On Diseases of the Stomach, Vols. xiv., xv., xx., and xxvii., 1839-'42-'45. On the Effects of Remedies, Vol. xvi., 1840. The remaining papers appeared in our New Series:—Memoir of Dr. Rutty, Vol. iii., 1847. Further Observations on Dropsies with Albuminous Urine, Vol. xii., 1851. On some Leading Facts to be Recollected in the Examination of the Fæces in Disease, Vol. xv., 1853. On the State Poison of the Athenians, Used in the Case of Socrates, Vol. xv., 1853. Observations on the Antimonial Powder of the last Dublin Pharmacopeia (1850), and on the Medical Effects of the Teroxide of Antimony, Vol. xviii., 1854. A Comparative View of the Effects of Some Remedies Used in Epilepsy, Vol. xxii., 1856. On the Plague at Athens, as Described by Thucydides, Vol. xxv., 1858. On Some Actions Performed by Voluntary Muscles, which, by habit, become Involuntary, with Practical Applications, Vol. xxx., 1860. On the Employment of a Heated Thermometer for the Measurement of the Cooling Power of the Air on the Human Body, Vol. xxxiii., 1862.

trace its individual laws; but, they are utterly unable afterwards to combine their isolated laws, and state the total effects of a given climate upon the human body. We may know the temperature, the rate and direction of wind, and the moisture of the air, and yet, be unable to unite these elements and predict their effect upon the human body.

Dr. Osborne proposed to observe the complex result, in the rate of cooling of a heated thermometer, and so to arrive by a ready integration at the final effect of the whole upon the human frame. His thermometer might well be named the "sensation thermometer," for it is found to correspond accurately in its indications with the feelings of the observer.

When first brought under the notice of the British Association in Dublin, and afterwards before the Royal Irish Academy in 1850, its very perfections were alleged as reasons for its non-adoption by meteorologists. It confessedly summed up the effect of temperature, moisture, and wind, and was therefore set aside in favour of instruments which were intended to measure and observe each of these elements separately.

Dr. Osborne's last paper was a further communication on this important subject, published in 1862, when it was finally read, with additional illustrations and arguments, before the Association of the College of Physicians, and published in this Journal (May, 1862).

For upwards of twenty years Dr. Osborne endeavoured, in vain, to attract the attention of meteorologists to his method of observation; but there can be no doubt that a tardy justice will, in time, be rendered to his ingenious suggestion, and that his "sensation" thermometer will ultimately find a place in every meteoroligical observatory in the world.

His profession exhibited their sense of Dr. Osborne's character and worth in bestowing on him its highest honours. He twice filled the Chair of President of the College of Physicians.

He was naturally a man of most cheerful and happy temper, and a most delightful companion. Those who knew him well were much attached to him, and found in him a firm and steady friend Every one respected him as an upright, honest man. The loss of a favourite son, a youth of great promise, laid the foundation of his fatal disease.

BOOKS RECEIVED, FEBRUARY, 1864.

1. On Australian climates, and their influences in the prevention and arrest of pulmonary consumption. By S. Dougan Reid, L.R.C.P.L., &c. London: Longmans. 1863. 8vo, pp. 168.

2. Medico-Chirurgical Transactions. Vol. XLVI. 1863. 8vo, pp. 222.

3. Notes of researches on the intimate structure of the brain. Third series. By J. Lockhart Clarke, F.R.S. Reprint. 8vo, pp. 7.

4. Trattato delle febri intermittenti di Francesco Casorati preceduto da alcune notizie sulla di lui vita. Pavia. Fratelli Fusi. 1863. 8vo, pp. 337.

5. The principles and methods of medical observation and research, for the use of advanced students and junior practitioners. Second Edition. With copious nosologies and indexes of fevers, and of constitutional, cutaneous, nervous, and mental diseases. By Thomas Laycock, M.D., &c. Edinburgh: Maclachlan and Stewart. 1864. Post 8vo, pp. 403.

6. The popular science review, No. 9. Edited by H. Lawson, M.D., Professor of Physiology, Queen's College, Birmingham. London: Hardwicke. 8vo, pp. 140. Oct., 1863.

7. Asthma, consumption, and bronchitis treated by the water cure and air-bath. By W. Macleod, M.D. London: Hardwicke. 8vo, pp. 36. 1863.

8. Victoria toto cœlo, or modern astronomy recast, being a paper on the theoretical motions of the sun, moon, and planets, submitted to section A of the British Association, August, 1863. By James Reddie, F.A.S.L., &c. London: Hardwicke. 1863. 8vo, pp. 64.

9. The New Zealand handbook. Ninth Edition. London: Willis, Gann, and Co. 1864. Fcap. pp. 132.

10. The San Francisco medical press. Oct., 1863.

11. The Medical and surgical review (Australasian). Sept., 1863.

12. Manual of the metalloids. By James Apjohn, M.D., F.R.S., &c., Professor of Chemistry in the University of Dublin. London: Longmans. Crown 8vo, pp. 596.

13. Topics of the day, medical, social, and scientific. By James A. Hingeston, Regist. Pract., M.R.C.S., &c. London: Churchill. 1863. Crown 8vo, pp. 400.

14. Transactions of the [illegible] Society of London. Vol. XLV. Comprising the report of the proceedings for the session 1862-63. London. 1863. 8vo, pp, 301.

15. Variola ovina, sheep small-pox; or the laws of contagious epidemics, illustrated by an experimental type. By Wm. Budd, M.D. London: Richards. 1863. Fcap. pp. 33.

16. On the immediate treatment of stricture of the urethra by the employment of the stricture dilator. By Bernard Holt, F.R.C.S., &c., &c. Second Edition. London: Churchill. 1863. 8vo, pp. 110.

17. A practical treatise on the diseases and infirmities of advanced life. By Daniel Maclachlan, M.D., &c. London: Churchill, 1863. 8vo, pp. 718.

18. On general principles in medicine, an introductory address delivered at St. George's Hospital at the opening of the medical session, October, 1863. By Henry Lee, surgeon to the hospital. London: Churchill. 1863. 8vo, pp. 36.

19. On ovarian dropsy, with cases of ovariotomy. By Thomas Keith, M.D., &c. Reprint. Edinburgh: Oliver and Boyd. 1863. 8vo, pp. 15.

20. A familiar epistle to R. J. Walker, formerly of Pennsylvania, &c., &c., from an old acquaintance, to which is prefixed a biographical sketch. Fifth Thousand. London: Saunders, Otley, and Co. 1863. 8vo, pp. 57.

21. The American journal of ophthalmology, devoted to ophthalmic medicine and surgery and the interests of specialism. Edited by Julius Homberger, M.D., &c. Vol. I. New York: Baillière, Brothers. 1863. 8vo, pp. 256.

22. De l'isolement des aliénés sous le rapport hygiénique, pathologique et légal. Par M. le Docteur Casimir Pinel. Paris: Masson et Fils. 1864. 8vo, pp. 44.

23. Lettres de Pinel précédées d'une notice sur sa vie. Par son neveu le Dr. Casimir Pinel. Paris: Masson et Fils. 1859. 8vo, pp. 56.

24. On the treatment of syphilis and other diseases without mercury, being a collection of evidence to prove that mercury is a cause of disease, not a remedy. By Charles R. Drysdale, M.D., &c. London: Baillière. 1863. 8vo, pp. 133.

25. Notes on hospitals. By Florence Nightingale. Third Edition, enlarged, and for the most part re-written. London: Longmans. 1863. 8vo, pp. 187.

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